STScI | SPACE TELESCOPE SCIENCE INSTITUTE

EXPANDING THE FRONTIERS OF SPACE ASTRONOMY

STScI Director's Office Update

Neill Reid

Space Telescope Users Committee Meeting

Topics

- STScI Director Search
- HST/JWST Working Groups update
- HST Multi-Cycle Treasury Programs

Director’s Search

STScI Director Search Committee

Search Committee Members:

- Steve Battel, Battel Engineering, Inc. (IVC, former STIC member)
- **James Bullock (Chair),** UC Irvine (STIC member)
- Joan Higginbotham, Ad Astra LLC (STIC, former NASA astronaut)
- Tim Heckman, JHU (former STIC member)
- Jenn Hoppa, STScI (Head of Systems Eng., I&T, and Operations Division)
- Rob Ivison, ESO (Director of Science)
- Lisa Kewley, Center for Astrophysics (Director)
- Nikole Lewis, Cornell University (Associate Professor, Exoplanets)
- John Mulchaey, Carnegie Institute (Carnegie Observatory Director)
- Marc Postman, STScI (Interim Deputy Director)

Steps in the Search

- Listening sessions held with STScI staff
- Director Search Committee invites applications and nomination
- 40-day window from open to close of announcement
- Deadline for applications (soft)
- Director Search Committee reviews applicant pool
- Director Search Committee identifies long-list for video interviews  **We are here**
- Director Search Committee conducts video interviews to vet long-list candidate list
- Short list developed; diversity relative to applicant pool tracked/adjusted
- Formal interviews of Short List with Director Search Committee and Council
- Director Search Committee and Council craft recommendation
- Council makes recommendation to AURA Board, with feedback to Agency
- Decision made by AURA Board, approval sought from Funding Agency
- Negotiations start
- Announcement of new Center Director

Working Group Updates

Background

- STScI Directors have constituted past Working Groups to consider large-scale initiatives, such as
  - Hubble Deep Field Working Group → Frontier Fields program
  - Fundamental Physics with Hubble → Fundamental Physics Initiative
  - UV Star Formation Working Group → ULLYSES DD program
- The STScI Director has constituted two Working Groups to consider
  - Strategies and priorities for exoplanet observations with HST and JWST
  - Strategies and priorities for long-term monitoring programs with HST and JWST
- The Working Groups are also charged with identifying potential large-scale programs that could be undertaken with Director's Discretionary time with JWST in Cycles 2 and 3
- Both groups are in place and have started regular meetings

Exoplanet Working group

Strategic Exoplanet Initiatives with HST and JWST

Membership:

- Chair: Seth Redfield (Wesleyan University)
  - Natasha Batalha (NASA Ames); Bjorn Benneke (U. Montreal); Beth Biller (ROE); Nestor Espinoza (STScI); Kevin France (Colorado); Quinn Konpacky (UCSD); Laura Kreidberg (MPIA, Heidelberg); Emily Rauscher (U. Michigan); and David Sing (JHU)
- WG has established a regular series of telecons
- WG is considering options and schedule for soliciting and receiving community input
- In-person meeting at STScI scheduled for mid-June

Exoplanet charter

The Exoplanet Strategy WG is charged with providing guidance on optimal strategies for maximizing the scientific return from HST and JWST spectroscopic and imaging observations of planetary systems. In particular, the Working Group should address the following tasks:

- Solicit input from the community on key science areas that should be prioritized for HST or JWST observations;
- Identify science themes that should be prioritized for future HST and JWST General Observer programs and/or Archival analyses, including potential HST multi-cycle programs;
- Provide advice on the optimal timing for substantive follow-up observations and suggest mechanisms for enabling those observations;
- Comment on the appropriate scale of resources likely required to support those programs;
- Develop a specific concept for a large-scale Director's Discretionary exoplanet program to start implementation by JWST Cycle 3.

Resources:

- Anticipate ~500 hours available for the DD program
  - The DD program should have a major scientific impact and should stand apart from TAC-implemented programs

Schedule:

"The Working Group will summarize their conclusions in a report to the Director and presentations to the STUC and the JSTUC. Interim recommendations will be presented in the Fall of 2023, with the final report due by January 2024."

https://outerspace.stsci.edu/display/HPR/Strategic+Exoplanet+Initiatives+with+HST+and+JWST

Long-term variability monitoring

Membership

- Co-chairs: Saurabh Jha (Rutgers) and Dana Casetti (Southern Connecticut)
    - Gary Bernstein (U. Penn.), Matt Hayes (Stockholm), Lidia Oskinova (POtsdam), Andrew Pace (Carnegie Mellon), Robert Quimby (San Diego State), Megan Reiter (Rice), Armin Rest (STScI), Adam Riess (JHU/STScI), David Sand (Arizona), Dan Weisz (Berkeley)
- WG has just started meeting
- This WG has the potential to span a very wide range of science categories, since it's more behavior-focused than category specific

Charter

The Long-Term Monitoring WG is charged with providing guidance on optimal strategies for maximizing the scientific return from HST and JWST time domain observations. In particular, the Working Group should address the following tasks:

- Solicit input from the community on key science areas that can exploit long time-baseline observations, based either on past observations or laying the foundation for future investigations;
- Identify science themes that should be prioritized for exploration by future General Observer programs and/or Archival analyses;
- Provide advice on the optimal timing for substantive follow-up observations and suggest mechanisms for enabling those observations;
- Comment on the appropriate scale of resources likely required to support those programs;
- Develop a specific concept for an observing program that will utilize JWST's imaging and spectroscopic capabilities to probe transient phenomena at high redshift, with the goal of starting implementation of the program in JWST Cycle 2.

Resources:

- Anticipate ~500 hours available for the DD program
    - The DD program should have a major scientific impact and should stand apart from TAC-implemented programs

Schedule:

The Working Group will summarize their conclusions in a report to the Director and presentations to the STUC and the JSTUC. Interim recommendations will be presented in the Fall of 2023, with the final report due by January 2024.

https://outerspace.stsci.edu/display/HPR/Long-term+variability+monitoring+strategies+for+HST+and+JWST

Multi-Cycle Treasury Programs

Background

STScI developed the concept of Multi-Cycle Treasury programs to maximise community science post-SM4

- The primary aim was to enable large-scale programs that would have a major scientific impact, but which were very unlikely to be implementable through the standard TAC process
- Community-selected programs that could span multiple science areas
- Programs to be distributed across three cycles (17, 18 and 19)

Process:

- Call for white papers issued on 30/11/2007
  - White papers were reviewed by a small *ad hoc* committee for proof of concept
- Following discussion with the STUC, the concept was approved for implementation
  - 750 orbits/cycle, 500 from GO pool and 250 DDT
- Implementation was delayed to 2009 following the delay in SM4
- Special Call issued in August 2009 with deadline of November 11 2009
- MCT TAC met in early January to select proposals
  - Three selected: CANDELS, CLASH and PHAT
- All three implemented successfully through Cycle 17-19

For further details, see here
https://www.stsci.edu/files/live/sites/www/files/home/news/newsletters/_documents/2010-volume027-issue01.pdf#page=18

A new set of MCTs?

Currently considering options for MCTs with both Hubble and JWST

- Size, scale and implementation all under consideration, but likely Cycles 32-34 for HST
  - Also considering options for JWST alone or in conjunction with HST
- Initial MCTs were allocated by a separate TAC, but considering integrating with the standard TAC process for future MCTs
  - Advantages:
    - Simplifies work for the community in submitting and reviewing proposals
      - How many more deadlines and TACs do we need?
    - Allows comparison with existing large/treasury programs
  - Disadvantages
    - TACs are always tempted to please as many as possible, and MCTs will absorb large resources
      - Allocations for MCTs would need to be clearly defined
      - TACs are advisory to the STScI Director, who is the Allocating Official for both HST and JWST

Summary

- STScI Director search is well under way
- Exoplanet and Long-term monitoring Working Groups are constituted and have started work
  - Regular meetings under way
  - Calls for community input will be forthcoming soon
- STScI is considering options for implementing a new set of Multi-Cycle Treasury programs with HST and, potentially, JWST