2012 News Releases

The Office of Public Outreach’s news team creates and disseminates press and photo releases to news organizations worldwide. This year, the news team issued 49 press and image releases, including a NASA Science Update announcing that our Milky Way and neighboring Andromeda galaxy are destined for a head-on collision 4 billion years from now. Other notable press releases for 2012 were the discovery of the farthest galaxy in the cosmos, the sighting of two new moons around Pluto, and the unveiling of a new portrait of the deepest-ever view of the universe, called the extreme Deep Field, compiled from a decade of observations.

James Webb Space Telescope

The James Webb Space Telescope (JWST) is a next-generation telescope planned to launch in 2018. JWST will replace the Hubble Space Telescope and will provide a new view of the universe. It will be located in Earth’s Lagrange Point 2 (L2), which is about a million miles from Earth. The primary mirror is 6.5 meters in diameter and will be cooled to about 4 Kelvin. JWST will be operated by the Space Telescope Science Institute (STScI) for NASA. JWST will be the most powerful telescope ever built and will be able to see beyond our solar system and into the early universe. JWST will be able to detect the light of the first stars and galaxies that formed billions of years after the Big Bang. JWST will also be able to observe exoplanets and their potential life forms.

Principles of the Space Telescope Science Institute

We will embody these principles and values in how we engage each other and accomplish our missions. Our workplace is a welcoming one in which ALL are valued and treated with respect and courtesy and expected to contribute to our success. We are all held to high standards for integrity and commitment.

SCIENCE: The astronomical community and NASA’s Space Science program are the driving force behind everything we do. Our success comes from the success of our community, our missions and NASA. We seek independent and external measures of our performance and success. There is no greater measure of our success than the enthusiastic support of the astronomical community, the interest and support of the public and the continued willingness of NASA to fund us.

TEAMWORK: Outstanding dedicated people make it all happen, especially when they work together as a team. Our success is achieved through the cooperation and contribution of every member of this organization. Effective teamwork is built on a solid foundation of good communication, respect and cooperation. We enable and recognize outstanding teamwork while continuing to value and champion the diversity of individuals.

SERVICE & EXCELLENCE: Enabling and doing breakthrough science is our greatest strength. We are dedicated to excellence in all our endeavors especially in our service to the community. We need to remain agile, innovative and tuned into the needs of our communities, emphasizing the peer relationship between science and engineering needed to create the optimal systems and solutions for our missions.

CITIZENSHIP: We are good citizens of our local community. We infuse a sense of scientific wonder, future potential, and community spirit through our actions. We are responsible stewards of our environment and understand the value of environmental sustainability. We continually seek cost-effective ways to reduce our carbon and waste footprints.

INNOVATION: We do important, innovative and exciting work. We are responsible for missions that provide outstanding discoveries and have the imagination of adults and children alike. To remain successful leaders in our field we view change as an opportunity and encourage experimentation. We recognize that creativity and innovation first requires divergent thinking to generate novel ideas and strive to evaluate and combine those ideas into the best result.

FUTURE: We are custodians of the future. We look ahead to the emerging needs of the astronomical community and anticipate future directions. We plan for the next generation in astronomy and inspire young people into the STEM careers needed in the future.

www.stsci.edu  hubblesite.org  webbtelescope.org

Evaluations

From 2012 Senior Review of Operating Missions in the NASA Astrophysics Division:

• HST provides excellent, cutting-edge science at a total cost of about $95M per year, of which about $30M annually is GO funding. Continued high-impact scientific contributions over a wide range of fields are anticipated. Great care has gone into the allocation of observing time, the delivery of calibrated data products, along with software tools for use with the data sets. The HST team has been forward-looking in developing a variety of procedures that can extend the lifetime of the mission.

From the James Webb Space Telescope performance evaluation:

• The overall score for the period reflects NASA’s appreciation of AURA’s outstanding support of the JWST Mission.
• NASA commends AURA for their numerous technical achievements, science and public outreach, and business achievements.
• All key milestones were on schedule and of high quality.

From the Report of the Committee on Diversity, Climate, and the Future of the Workplace:

• Overall, the staff were positive and thought they had good jobs and a good workplace.
• Essentially all STScI employees like their institution and their work and take pride in the positive workplace atmosphere. Very few people complained about their work environment. STScI continues to deserve its reputation as an excellent workplace.

In its February 2012 issue, Baltimore Magazine cited the Space Telescope Science Institute as one of the best places to work in metropolitan Baltimore. The editors gave high grades to STScI for its emphasis on promoting women and under-represented minorities to pursue careers in science, its contributions to employee retirement plans and for offering tuition reimbursement, flexible scheduling, and telecommuting opportunities.

STScI staff played a significant role in JWST instrument level testing this year. This project-wide effort led to the successful delivery of both the NIRISS and MIRI instruments to GSFC, and continued progress on the NIRCam and NIRSpec instruments (to be delivered in 2013). The Institute’s scripts were also loaded onto flight hardware and five exposures were executed with the flight MIRI instrument. The Institute also hosted both a science session and a Town-Hall meeting at the 221st meeting of the American Astronomical Society. These sessions featured presentations on new science opportunities, program status, and the road ahead for integration and testing. As a new POGO initiative, the JWST team at STScI led an effort to produce a “Webb Telescope” booklet that highlights the science, technology, and engineering of JWST in an interactive format. This booklet, along with the Hubble version, was released on iTunes before the winter holidays. The two Booklets were downloaded by the public over 100,000 times in their first few weeks of release.

STScI scientists discuss JWST science and engineering with young students during an education event at the Oct. 2012 DPS meeting in Reno, NV.
In April 2012, STScI’s astronomy archives were named in honor of the United States Senator from Maryland Barbara Mikulski. Called MAST, for the Barbara A. Mikulski Archive for Space Telescopes, the huge database contains astronomical observations from 16-space astronomy missions, including the Hubble Space Telescope, Kepler, and James Webb Space Telescope.

Mikulski Archive for Space Telescopes (MAST)

Launched in March 2009, NASA’s Kepler space observatory has photometrically monitored over 150,000 stars for signatures of transiting planets. To date Kepler has identified over 2,700 exoplanet candidates.

Hubble Archive Activity

Cycle 20 Oversubscription Rates

An all-time record number of 842 refereed papers based on Hubble data was published in 2012, 52 more than in 2011. In October 2012, the 11,000th Hubble paper in the 22-year history of the observatory appeared in the literature.

Papers in Refereed Literature

Science Activities

As a research organization, STScI provides an intellectually rich and diverse environment where experts and the Institute to collaborate with the staff, conduct workshops and present their latest findings. These presentations attract audiences from around the world.

Office of Public Outreach (OPO)

ViewSpace is an internet-fed, self-updating, permanent exhibit from the Institute. It transforms a small corner of exhibit halls or planetariums into an ever-changing kaleidoscope of inspiring and educational north and space science themes. In 2012, the ViewSpace team produced three new science themes about stars, supernovae, and star formation.

Funding and Financials

The Institute remained flexible in responding to the various challenges encountered in FY12 while adhering to the FY14 guideline budgets. We worked closely with the HST and JWST Projects to identify the impact of schedule and requirement changes and consistently submitted requested documentation on time and in compliance with all contract requirements.

HST Grant Funds Distributed through 9/30/12 (FY12)

In 2012, the HST Archive ingested over 12 TB of data, bringing its total size over the lifetime of the Hubble missions to more than 75 TB. Archive users retrieved more than 90 TB during 2012. The Hubble archive is increasing in use, with retrievals exceeding ingest by a factor of four.

Community Missions Office (CMO)

The CMO brings the cumulative scientific system expertise and experience of the Institute to other community-led astronomy missions. It fosters partnerships between mission teams and STScI staff, develops tools to communicate with the science community, and more.

Office of Community Affairs (OCA)

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