

# NASA HQ Update



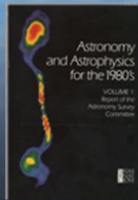
Eric P. Smith  
JWST Program Scientist  
NASA HQ  
JSTUC 8-Feb-2022

# Astrophysics

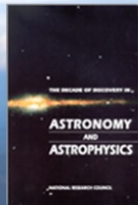
## Decadal Survey Missions



**1972**  
Decadal Survey  
*Hubble*



**1982**  
Decadal Survey  
*Chandra*



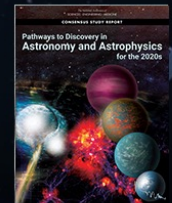
**1991**  
Decadal Survey  
*Spitzer*



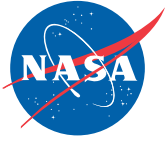
**2001**  
Decadal Survey  
*Webb*



**2010**  
Decadal Survey  
*Roman*



**2021**  
Decadal Survey



# Future Great Observatories

Large observatories are a critical component of NASA's astrophysics portfolio

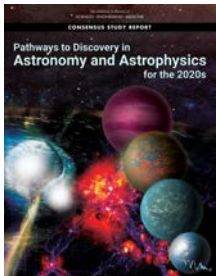
- The Decadal Survey recommends a compelling, feasible, timely portfolio of future great observatories that is part of a balanced Astrophysics program

Today NASA's priority is ensuring mission success for Webb and Roman

- Webb has been launched and has begun its 6-month commissioning phase
- Roman successfully passed its Critical Design Review (CDR) and has been replanned to account for COVID impacts; the new launch commitment date is mid-2027 (7 month delay due to COVID)

Now is not the time to start a Future Great Observatory; now is the time to prepare  
NASA will take a deliberate, multi-stage planning and strategy approach to the next large observatory mission

- Stage 1 – Focus on enabling science and technology; begin Stage 1 now
- Stage 2 – Begin the Decadal Survey recommended "Great Observatories Maturation Program"; conduct Analysis of Alternatives (AoA) and science / technology / architecture trades; begin Stage 2 in a few years (driven by planning and budget availability)
- Stage 3 – Pre-formulation and decision to start the next Great Observatory; begin after Stage 2 complete (Decadal Survey estimates 6 years for Stage 2)

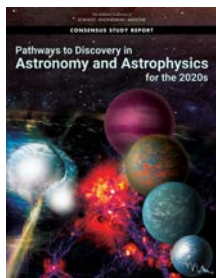


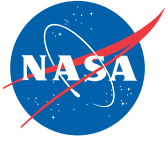


# Future Great Observatories

Stage 1: Identify and start enabling science and technology investments that are responsive to Decadal Survey science priorities for the future Great Observatories

- Lessons learned by prior missions and flagships are important to identify and implement in our future portfolio (see NASA's [Large Mission Study](#))
- Stage 1 consists of activities, not an organization, program, or project
- Stage 1 is led by NASA Headquarters Astrophysics Division and supported by existing NASA Astrophysics organizational structures (i.e., existing Astrophysics program offices))
- Stage 1 will include broad, inclusive community involvement





# Future Great Observatories

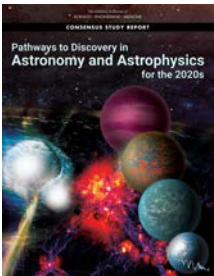
## Stage 1: Precursor Science Program

### Definitions:

- Precursor Science: Informs mission architecture/trades. Need Date: now.
- Preparatory Science: Informs data/interpretation. Need Date: by/after launch.

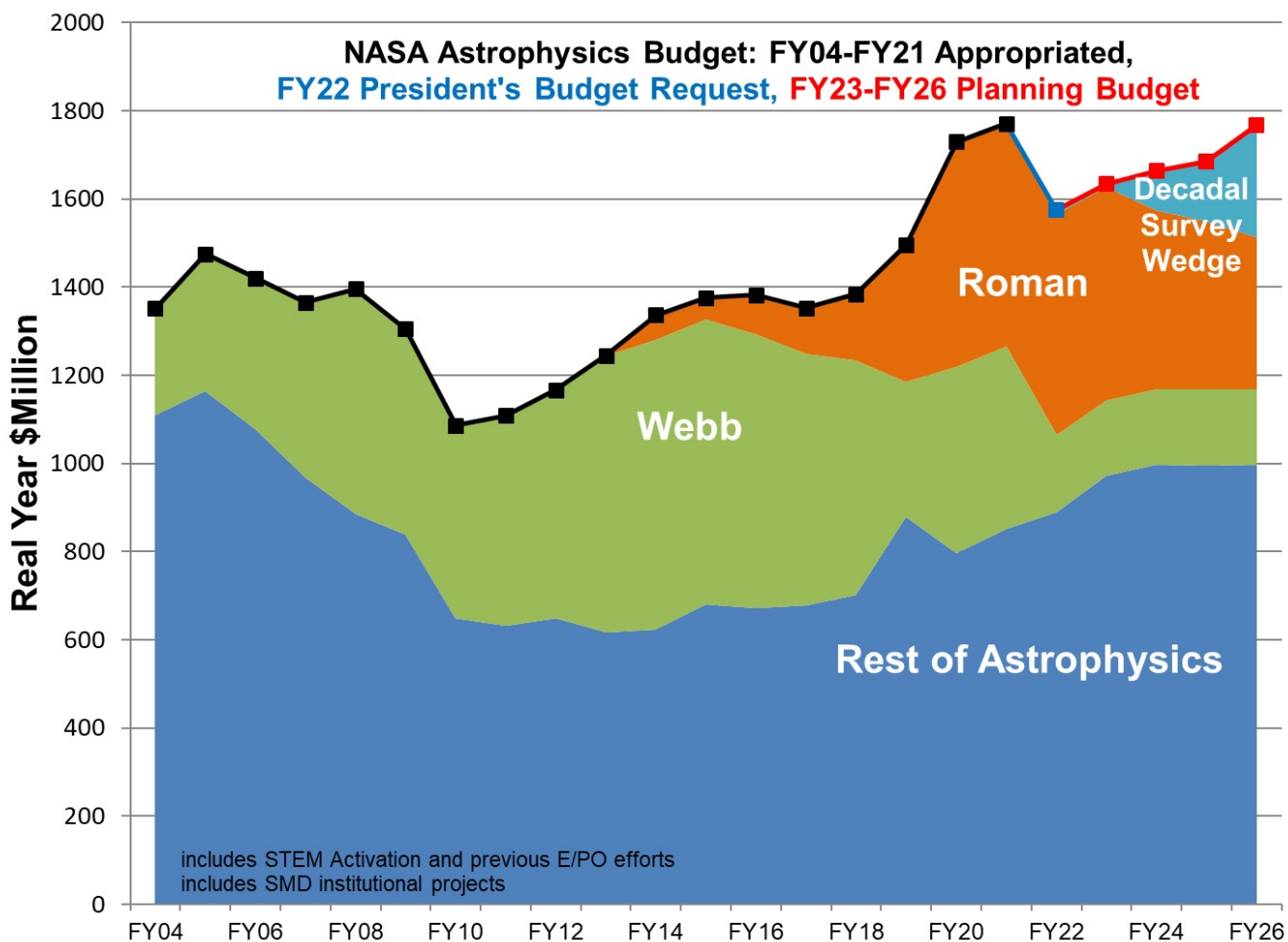
Future Great Observatory mission costs can be controlled by having well defined science goals. To this end, NASA will invest in science investigations that inform mission architectures and trades with a goal to reduce design and development risk where possible.

- All Future Great Observatory missions will follow the same path for precursor science implementation. This is not just a rehashing of the large mission concept studies science cases.
- Planning a series of workshops to have more discussion in [April 20-22](#) and July 2022.
  - Precursor science for all Future Great Observatories will be discussed
  - Please plan to attend!
- Precursor Science will be conducted by the community and funded through a new ROSES program element starting with ROSES-22

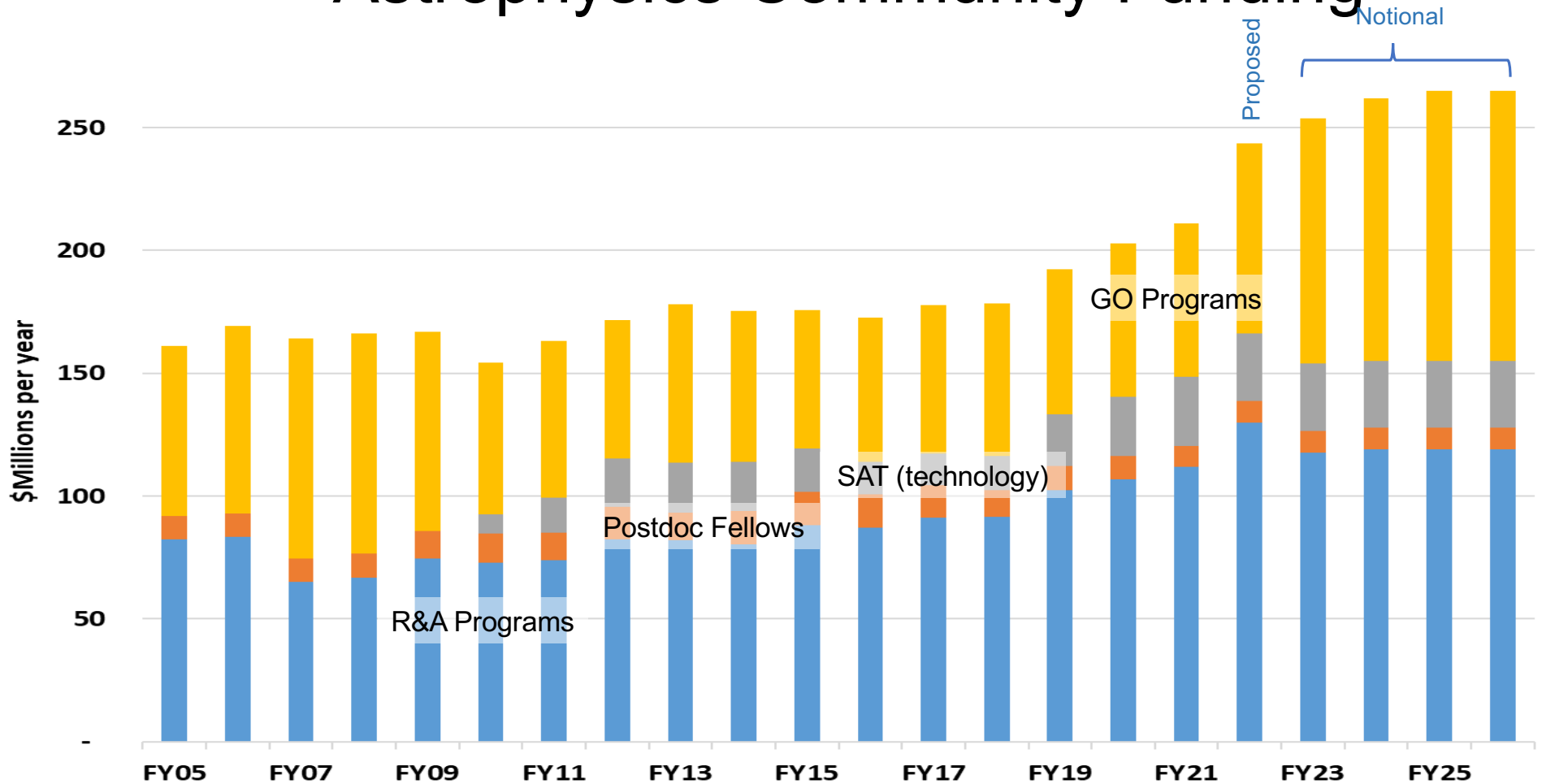


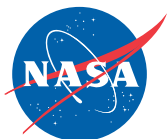


# Astrophysics Budget – FY22 Request



# Astrophysics Community Funding





# NASA Hubble Fellowship Program Review

National Aeronautics and Space Administration

**The NASA Hubble Fellowship Program:**  
A Review of 30 Years of Promoting Excellence in Astrophysics

Dates: June–October 2021

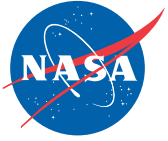
Panel Members and Affiliations

Rita Sambruna (Co-Chair) NASA Goddard Space Flight Center	Nicolle Zellner (Co-Chair) NASA Headquarters and Albion College
Marcel Agüeros, Columbia University	
Kate Follette, Amherst College	
Stefanie Johnson, University of Colorado	
N. Jeremy Kasdin, Princeton University	
Xin Liu, University of Illinois	
Sherard Robbins, Visceral Change	
Keivan Stassun, Vanderbilt University	
Bianca Chavez (Executive Secretary), Albion College and University of Texas at Arlington	
Hannah Woods (Executive Secretary), Albion College and Purdue University	

www.nasa.gov

The NASA Hubble Fellowship Program (NHFP) supports outstanding postdoctoral scientists pursuing independent research that contributes to NASA Astrophysics. In the summer of 2021, NASA conducted the first review of this program that was created over 30 years ago

- Co-chaired by Rita Sambruna, Deputy Director of the Astrophysics Division at GSFC, and Nicolle Zellner, Program Scientist in NASA HQ's Planetary Science Division
- The panel's report is available at <https://science.nasa.gov/astrophysics/documents>



# What's next for Astrophysics?

Paul Hertz will be stepping down this year after more than 10 years as Director of Astrophysics (the best job at NASA)

Once the new Director of Astrophysics is in place, Hertz will move to the SMD Front Office as Senior Advisor to the SMD Associate Administrator

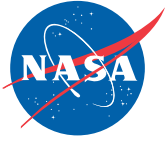
Who will lead NASA astrophysics in the upcoming era of increasing inclusion and diversity, growing R&A, Webb science, Roman development, exoplanet characterization, time domain and multi-messenger astrophysics, dark energy and dark matter, first Astrophysics Probe, more Explorers / Pioneers / cubesats, future great observatories, and realizing Decadal Survey priorities?

The search for the next NASA Director of Astrophysics has begun

For the job advertisement, see <https://www.usajobs.gov/job/628265700> or search for announcement number HQ-22-ES-11334214 on <https://USAJOBS.gov>

This is a Senior Executive Service (SES) position, which requires a resume and a substantial narrative job application addressing executive core qualifications and mandatory technical qualifications

The application period closes on March 21, 2022



# Astrophysics FY22 Budget Mark-up

	Request \$M	House \$M	Senate \$M	Comments
<b>Webb</b>	175.4	175.4	175.4	
<b>Astrophysics</b>	1,400.2	1,446.3	1,400.2	House adds \$46.1M
<b>Hubble</b>	98.3		98.3	
<b>SOFIA</b>	0	85.2		House rejects the Administration's request to terminate SOFIA; Senate is silent
<b>Roman</b>	501.6	501.6	501.6	House: include continued development of coronagraph tech demonstration Senate: reiterates cost cap
<b>Explorers</b>	300.4	277.7	300.4	House cuts \$22.7M; Senate declines cut and compliments Explorers cadence and Pioneers
<b>Research</b>	285.5	279.1	285.5	House cuts \$6.4M; Senate declines cut
<b>Rest of Astrophysics</b>	312.7 (H)	302.7		House cuts \$10.0M (undistributed)
	214.4 (S)		214.4	Senate mark matches request