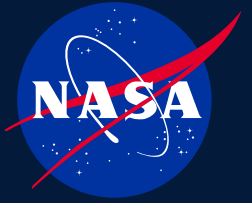


Ad ASTRA Workshop

Sep 1-3, 2026
Pasadena, CA

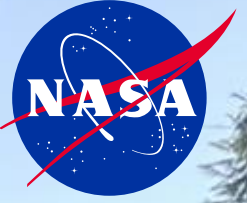




Mandate and Deliverables for Day 3: Community Discussion

Francesca Civano

Chief Scientist – Physics of the Cosmos Program



300 scientists

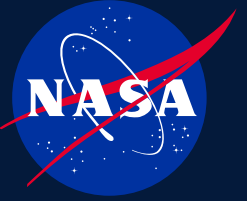
**130
presentations**

**25 breakout
sessions**

**community's
billion-dollar
questions**

**mission
concepts**

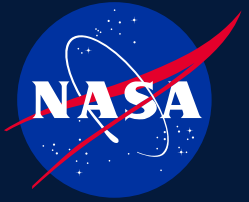




Day 3: Synthesis and Discussion

- Lesson learned from the past to inform the future
- Workshop synthesis:
 - Key Science Questions for the 2030s and Beyond
 - Key Technology and Capabilities for the 2030s and Beyond
- Take the temperature of the community

Enduring Quests – Daring Visions: Science and Technology Summary



Science	Formative Era					Visionary Era			
	GW Surveyor	CMB-pol Surveyor	FIR Surveyor	LUVOIR Surveyor	X-ray Surveyor	GW Mapper	Cosmic Dawn Mapper	ExoEarth Mapper	Black Hole Mapper
Demographics of planetary systems									
Characterizing other worlds									
Our nearest neighbors and the search for life									
The origins of stars and planets									
The Milky Way and its neighbors									
The history of galaxies									
The origin and fate of the universe									
Extremes of matter and energy									
Ripples of space-time									

Primary Goals
 Secondary Goals

Capability	Formative Era					Visionary Era			
	GW Surveyor	CMB-pol Surveyor	FIR Surveyor	LUVOIR Surveyor	X-ray Surveyor	GW Mapper	Cosmic Dawn Mapper	ExoEarth Mapper	Black Hole Mapper
Formation flying									
Interferometry: precision metrology									
X-ray interferometry									
High-contrast imaging techniques									
Optics deployment and assembly									
Broadband coatings									
X-ray optics									
Large-format detector arrays									
New detector capabilities									
Cryogenics									

Essential Goals
 Beneficial Goals

X-rays

Radio

[illegible]

High-Energy

X-rays

[illegible]

Interferometry

Radio

[illegible]

