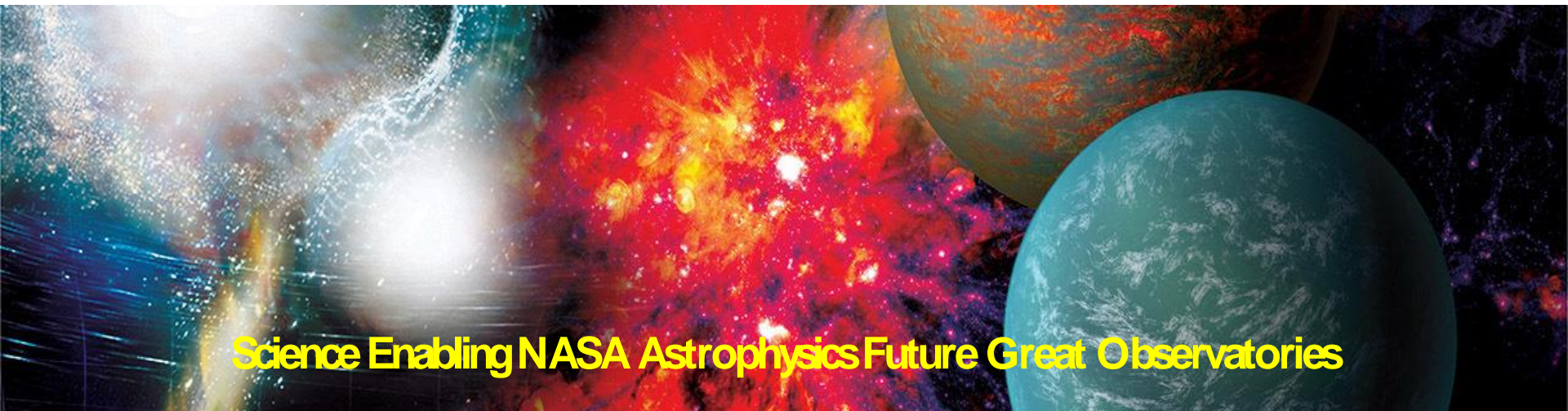




Precursors to Pathways

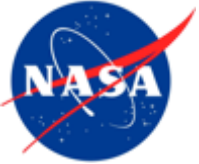


Science Enabling NASA Astrophysics Future Great Observatories

Eric P. Smith

April 20-22, 2022

Astrophysics Division, NASA HQ



Precursor Science

- Investigations that inform future mission architecture/trades ideally reducing design and/or development risk
- Integral part of a maturation process that involves technology and programmatic considerations
- Investigations may be of any type, theory, laboratory astrophysics, data analysis, observations



Workshop Goal

- Information for the PAGS/community to use during the summer to further develop ideas raised here. That work will inform a second workshop whose output will assist NASA in defining its ROSES call to fund precursor science
- Call released ~Nov 2022, funding in 2023



Workshop Outline

Day 1: Foundations for the Precursor Science effort

Decadal background, large mission studies, what can be done with existing missions, doing even better science through inclusivity

Framing science questions during early mission development

Day 2: Brainstorming precursor science topics by mission and science area and brainstorming science gaps, with common Q&A.

Day 3: Reports from the Day 2 Discussions

Reports from breakout sessions: ~5min each with time for short discussion.

Connection between science and technology efforts

Next steps



More Thoughts on Precursor Science

- Science Goals and priorities have been established through the decadal survey process, we are not revisiting or reprioritizing them
- Do not need to reinvent work done through the Large Mission studies – they are jumping off points
- Not all science related to future great observatories will be solicited in the precursor science call, only those investigations that affect mission design/risks



Conference Logistics

- **Structure - virtual workshop enabling parallel contributions. Please:**
 - Remain on mute unless speaking.
 - Raise virtual hand [WebEx] to speak; facilitators will call on one person at a time.
 - Hear from others before returning to the same speaker. (Please remember to lower your hand after speaking.)
 - Capture additional thoughts in the Slack channel (preferred). WebEx chat will be monitored to the best of our ability after Slack.
- **Google drive and slack channels used for information exchange (links will be posted on agenda). Agenda and presentations links will be posted on the workshop website.**
 - Facilitators will capture key points. All participants can edit [gdoc Day 1 notes] to further enable inclusive participation.
- **This is hard work and even harder virtually. Through the process please be generous to others, to yourself, and to the facilitators.**



Special Thanks

Science Organizing Committee

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