Exoplanet Exploration Program
Overview

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Let’s Celebrate Astro2020!
Thank you ExoPAG!

Occurrence Rates
Technology
Studies

ExoZodi
Concept
Working Groups

Theory
SAGs
Analysis

+++
ExoPAG Terms of Reference
Exoplanet Program Analysis Group
Chartered by the Astrophysics Division

1. Articulate and prioritize the **key scientific drivers** for Exoplanet Exploration research;

2. Evaluate the **expected capabilities of potential ExEP missions** for achieving the science goals of the Program;

3. Evaluate ExEP goals, objectives, **investigations and required measurements** on the basis of the widest possible community outreach;

4. Articulate and prioritize focus areas for **needed mission technologies**; and

5. Provide findings on related activities such as **ground-based observing, theory and modeling programs, laboratory astrophysics, suborbital investigations, data archiving and community engagement**.
Acronym Glossary

**NASA** - National Aeronautics & Space Administration
**NASA HQ** - NASA Headquarters, Washington DC
**SMD** - Science Mission Directorate

**APD** - Astrophysics Division, a division within SMD
- Paul Hertz, Division Director
- Sandra Cauffman, Deputy Director
- Jeanne Davis, Associate Director

**APAC** - Astrophysics Advisory Committee
- a FACA committee to APD

**ExoPAG** - Exoplanet Program Analysis Group

**ExEP** - Exoplanet Exploration Program, within APD
- At NASA HQs & JPL in Pasadena CA
- E. Lucien Cox, Program Executive
- Douglas Hudgins, Program Scientist
- Hannah Jang-Condell, Dpy PS

**NExScI** - NASA Exoplanet Science Institute, within ExEP
- at Caltech in Pasadena CA
NASA Exoplanet Exploration Program
Astrophysics Division, NASA Science Mission Directorate

NASA's search for habitable planets and life beyond our solar system

Program purpose per Charter
From the Astrophysics Division
1. Discover planets around other stars
2. Characterize their properties
3. Identify candidates that could harbor life

ExEP serves the Science Community and NASA:
• As a Focal point for exoplanet science and technology
• By Integration of cohesive strategies for future discoveries

https://exoplanets.nasa.gov/exep
NASA Exoplanet Exploration Program

Mission Concepts

IR/O/UV Mission Concepts

Coronagraph

Starshade

Supporting Research & Technology

Key Sustaining Research

NN-EXPLORE

Keck Observatory

Extreme Precision Radial Velocity Technology Development

Coronagraph Technology Development

Starshade Technology Development (S5)

NASA Exoplanet Science Institute (NExScI)

Exoplanet Communications

Coronagraph Starshade

High Resolution Imaging

Extreme Precision Radial Velocity Technology Development

Supporting Research & Technology

Technology Development

Archives, Tools, Sagan Program, Professional Engagement
Exo / Astro Comm – Outreach Highlights

- Produced bilingual exoplanet-finding mission posters
- Published the “Are We Alone” series, a compilation of exoplanet feature stories about NASA’s search for life
- Created a Halloween horror poster featuring HD 80606b
- Collaborated on an Exoplanet Travel Bureau video and behind-the-scenes story with GSFC that received 300K+ views in one week: https://go.nasa.gov/30OJVGJ
- Presented on The Role of Art in Science Communication at the 2021 TESS Conference
- Won a WEBBY award for Best Web & Mobile Science website: exoplanets.nasa.gov
But There is Work to be Done!

To fulfill the Ambitions of Astro2020 for IR/O/UV Mission

• In particular, the Great Observatory Mission and Technology Maturation Program leading to an Independent Review prior to a new mission start

• The Astrophysics Division is responding to Astro2020 and the Exoplanet Exploration Program will support APD and the community

• To learn more: please attend Paul Hertz’ NASA Town Hall on Tuesday Jan 11
Exoplanets, and the Search for Life, are Aspirational: They Draw us, and Impel us To Explore other Worlds and to Inspire our Own

Credit: Nick Siegler
Acknowledgements

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