Introduction to the NASA Exoplanet Exploration Program

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Sagan Exoplanet Summer Workshop
Exoplanetary System Demographics: Theory and Observations
Exoplanet Missions

NASA Missions

Spitzer

Kepler

Hubble

ESA/European Missions

CoRoT

Gaia

CHEOPS

NEW Worlds Telescope

WFIRST

Habitable Exoplanet Imager

L-UV-OIR

1 NASA/ESA Partnership

2 CNES/ESA
NASA Exoplanet Exploration Program

Purpose described in 2014 NASA Science Plan

1. Discovering planets around other stars
2. Characterizing their properties
3. Identifying candidates that could harbor life

The Search for Life in our Galaxy
NASA Exoplanet Exploration Program

Space Missions and Mission Studies
- Kepler, K2
- WFIRST-AFTA
- Probe-Scale
- Decadal Studies
- Starshade

Supporting Research & Technology
- Key Sustaining Research
- Technology Development
  - Coronagraph Masks
  - High Contrast Imaging
  - Deployable Star Shades

Public Engagement
- NASA Exoplanet Science Institute
  - Archives, Tools, Sagan Fellowships, Professional Engagement

Kepler, K2
WFIRST-AFTA
Probe-Scale
Decadal Studies
Starshade
Coronagraph
Coronagraph Masks
High Contrast Imaging
Deployable Star Shades

Large Binocular Telescope Interferometer
Keck Single Aperture Imaging and RV
NN-EXPLORE

NASA Exoplanet Exploration Program

Eyes of Exoplanets
Explore New Worlds
NASAs Exoplanet Exploration Program
The Exoplanet Gold Rush

Mass (Earth masses)

Period (years)

- Radial Velocity
- Direct Imaging
- Microlensing
- Transit

www.hughosborn.co.uk
Question: What is Kepler?
WFIRST / AFTA Microlensing for Exoplanets
Completes the Census Begun by Kepler
WFIRST / AFTA
Dark Energy, IR Survey, Exoplanet Census, Imaging and Spectroscopy
Technologies for High-Contrast Imaging
Coronagraph Masks (Internal Occulters)
Technologies for High Contrast Imaging
Starshades (External Occulters)
Where will exploration take us in 100 years?
Introducing the **Exoplanet Travel Bureau**

Next Travel Poster: 8/3 Release
Imagine your role in the discovery of Habitable Worlds and Search for Life in our Galaxy

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2 CNES/ESA
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