



Jet Propulsion Laboratory
California Institute of Technology

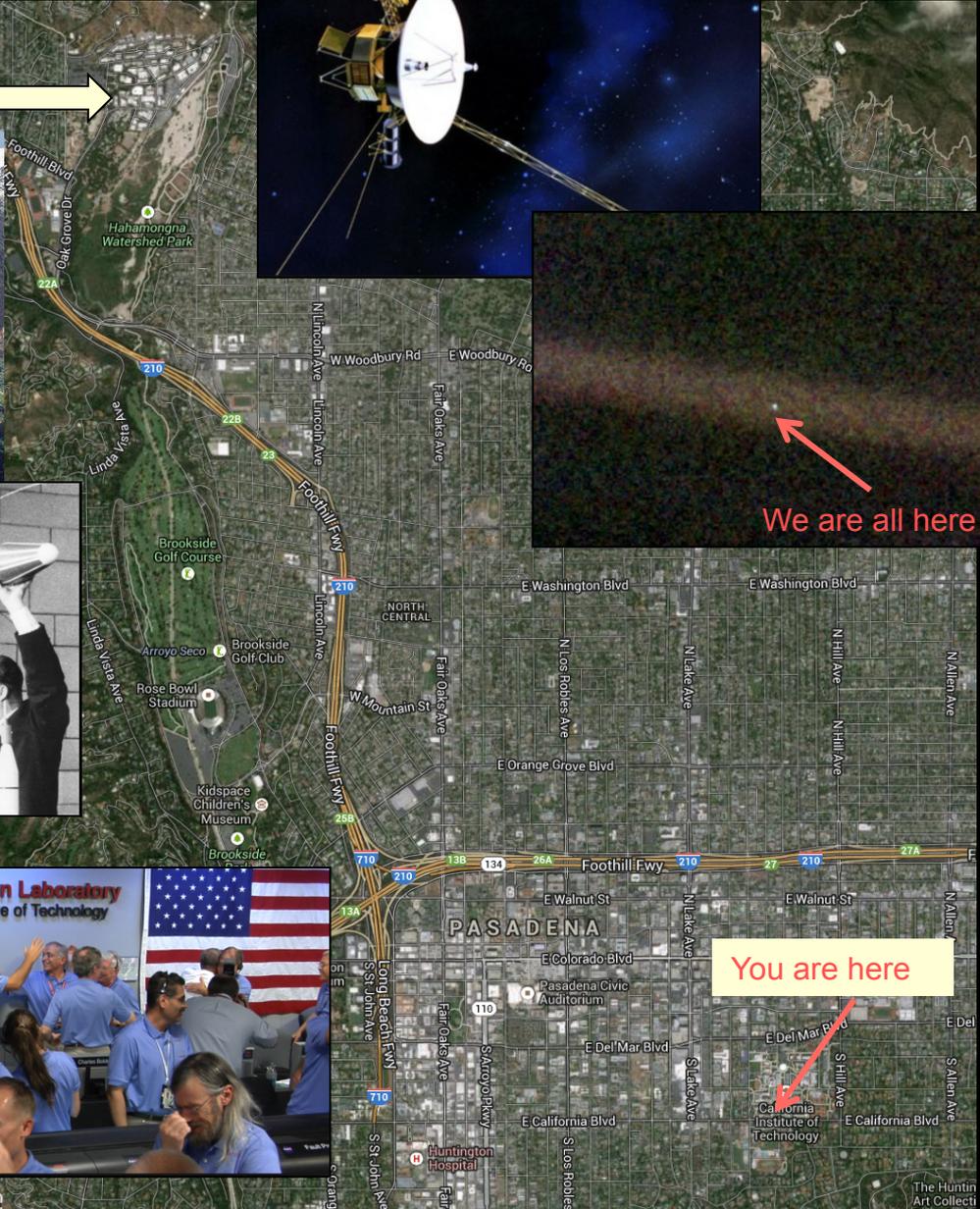
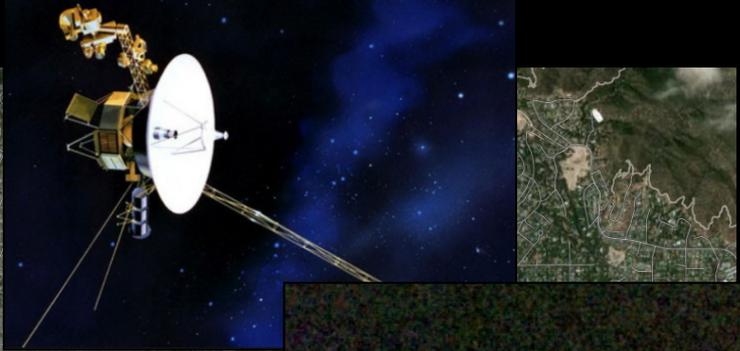
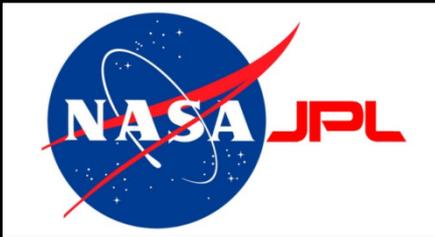
Introduction to the NASA Exoplanet Exploration Program

Gary Blackwood, Program Manager

July 27, 2015

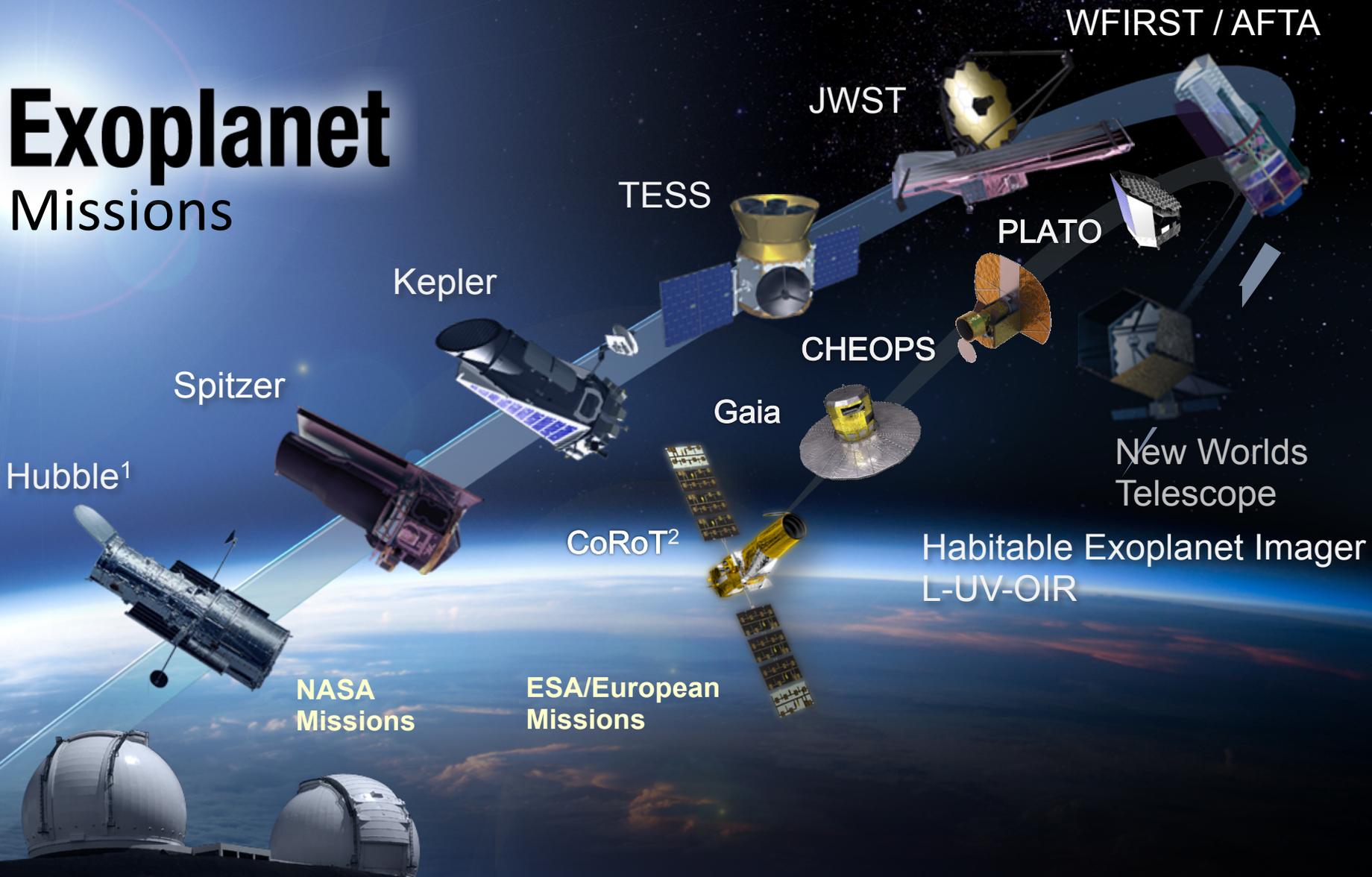
Sagan Exoplanet Summer Workshop

Exoplanetary System Demographics: Theory and Observations



You are here

Exoplanet Missions



¹ NASA/ESA Partnership

² CNES/ESA

NASA Exoplanet Exploration Program



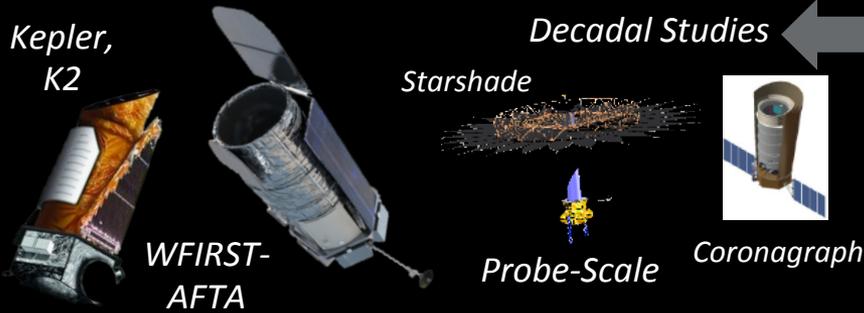
Purpose described in 2014 NASA Science Plan

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



Public Engagement



Supporting Research & Technology

Key Sustaining Research



Large Binocular Telescope Interferometer

Keck Single Aperture Imaging and RV



NN-EXPLORE

Technology Development



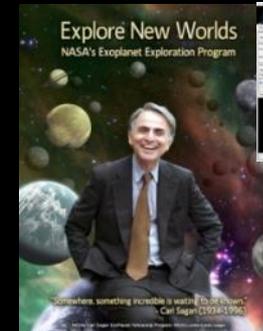
Coronagraph Masks

High Contrast Imaging



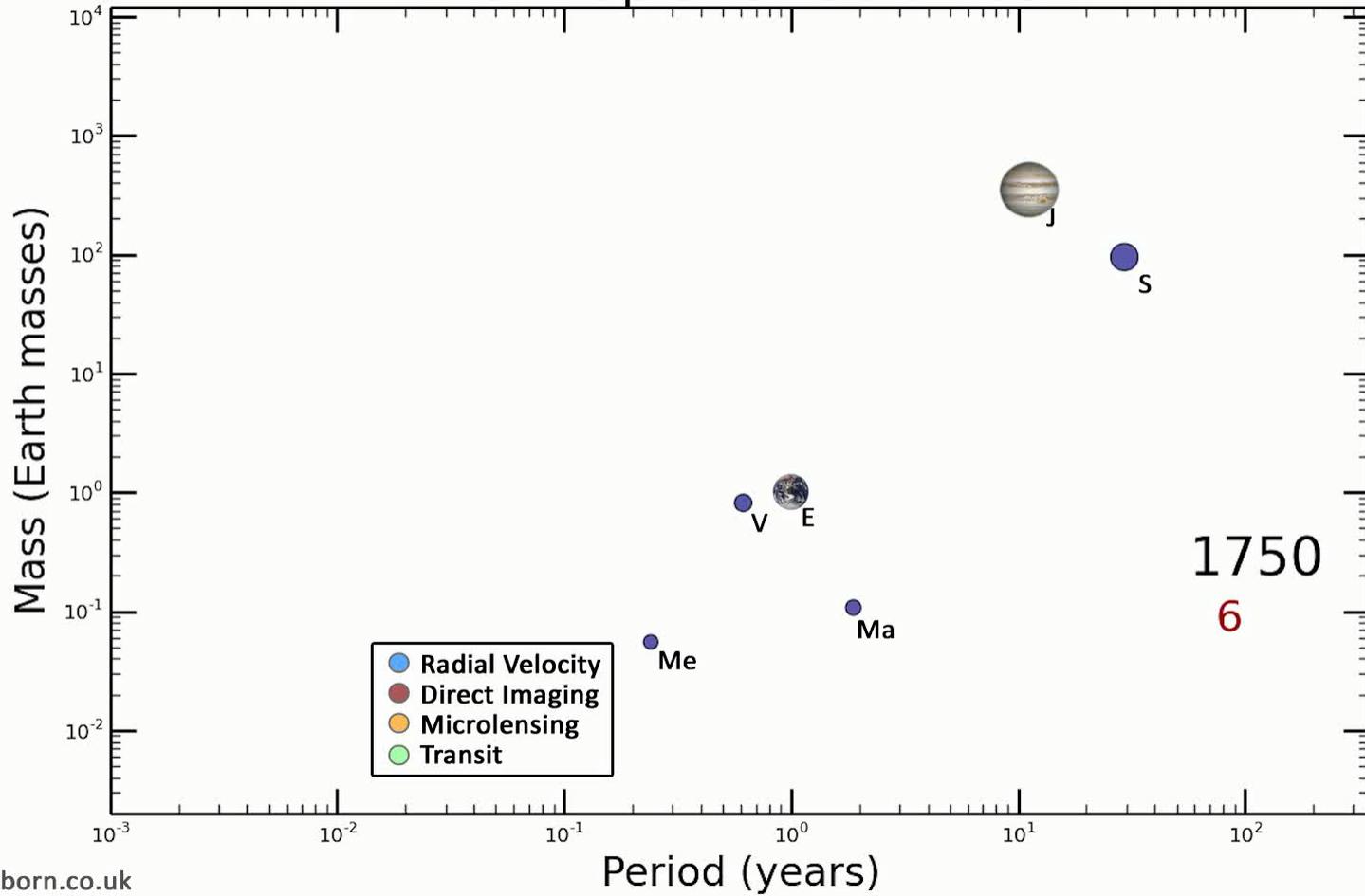
Deployable Star Shades

NASA Exoplanet Science Institute

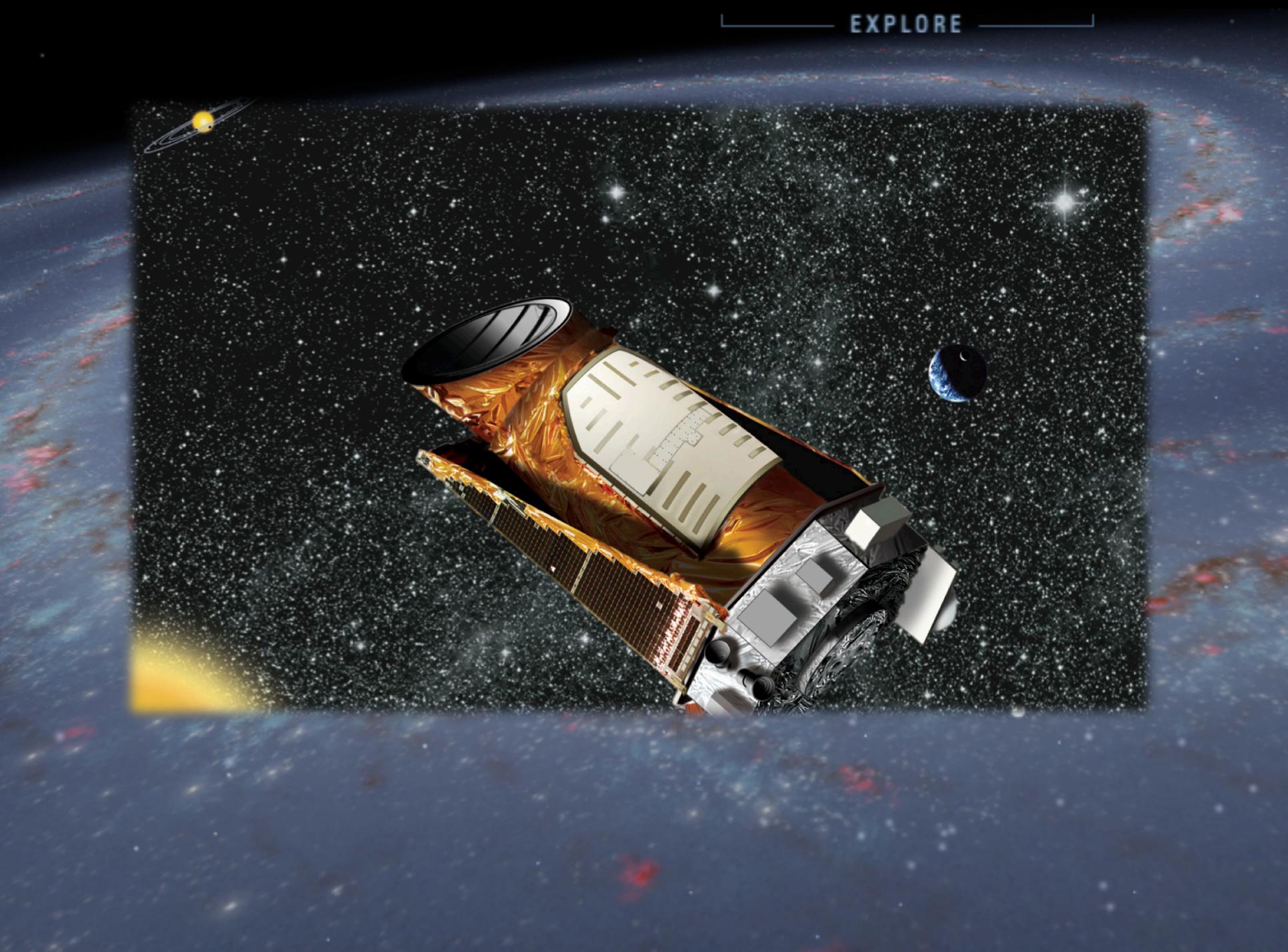


Archives, Tools, Sagan Fellowships, Professional Engagement

The Exoplanet Gold Rush

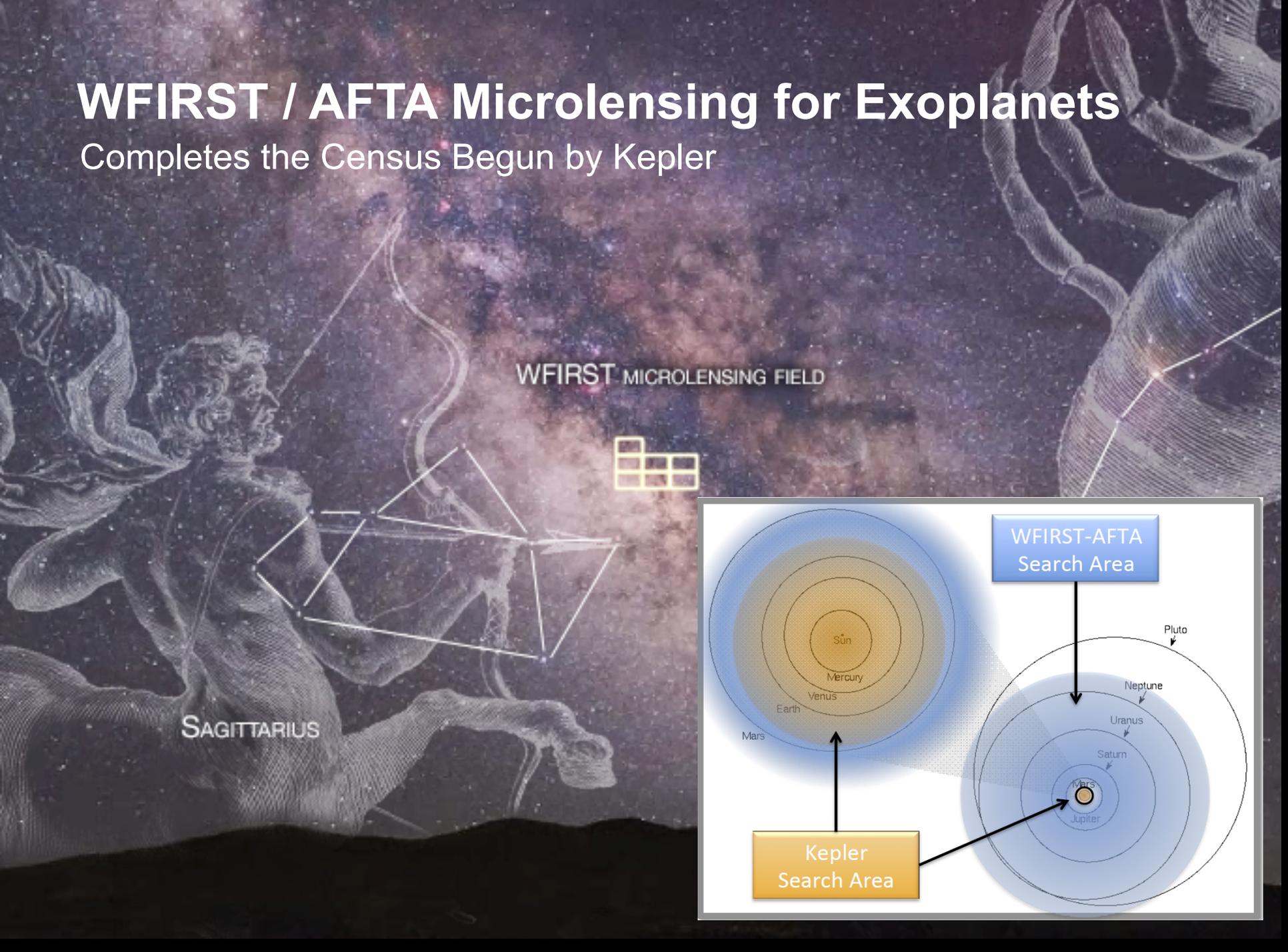


EXPLORE



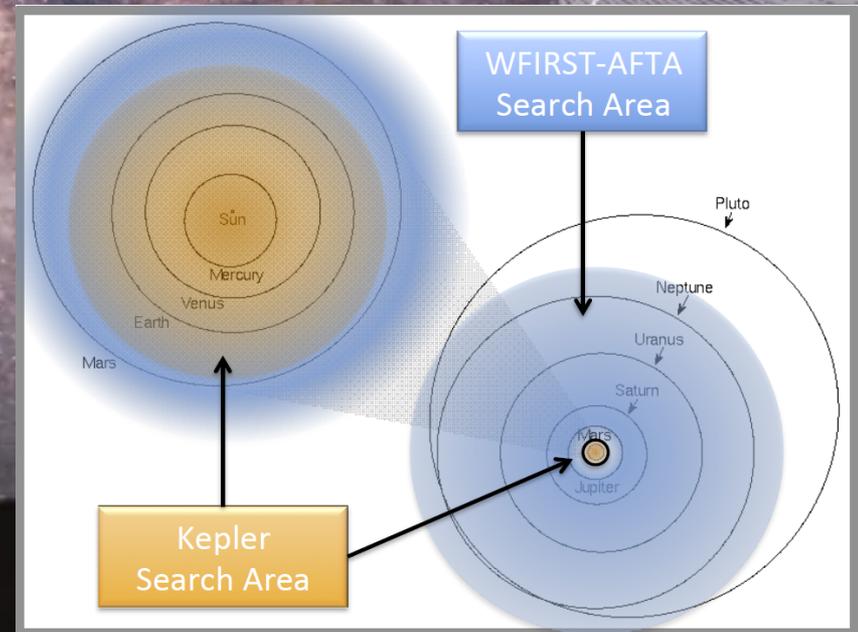
WFIRST / AFTA Microlensing for Exoplanets

Completes the Census Begun by Kepler



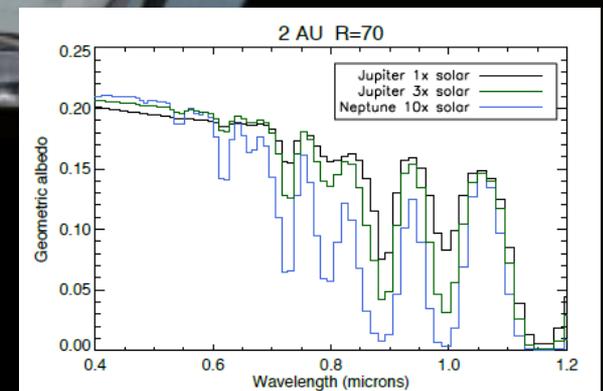
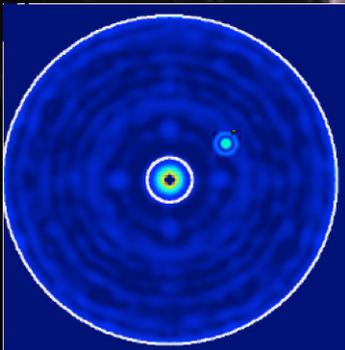
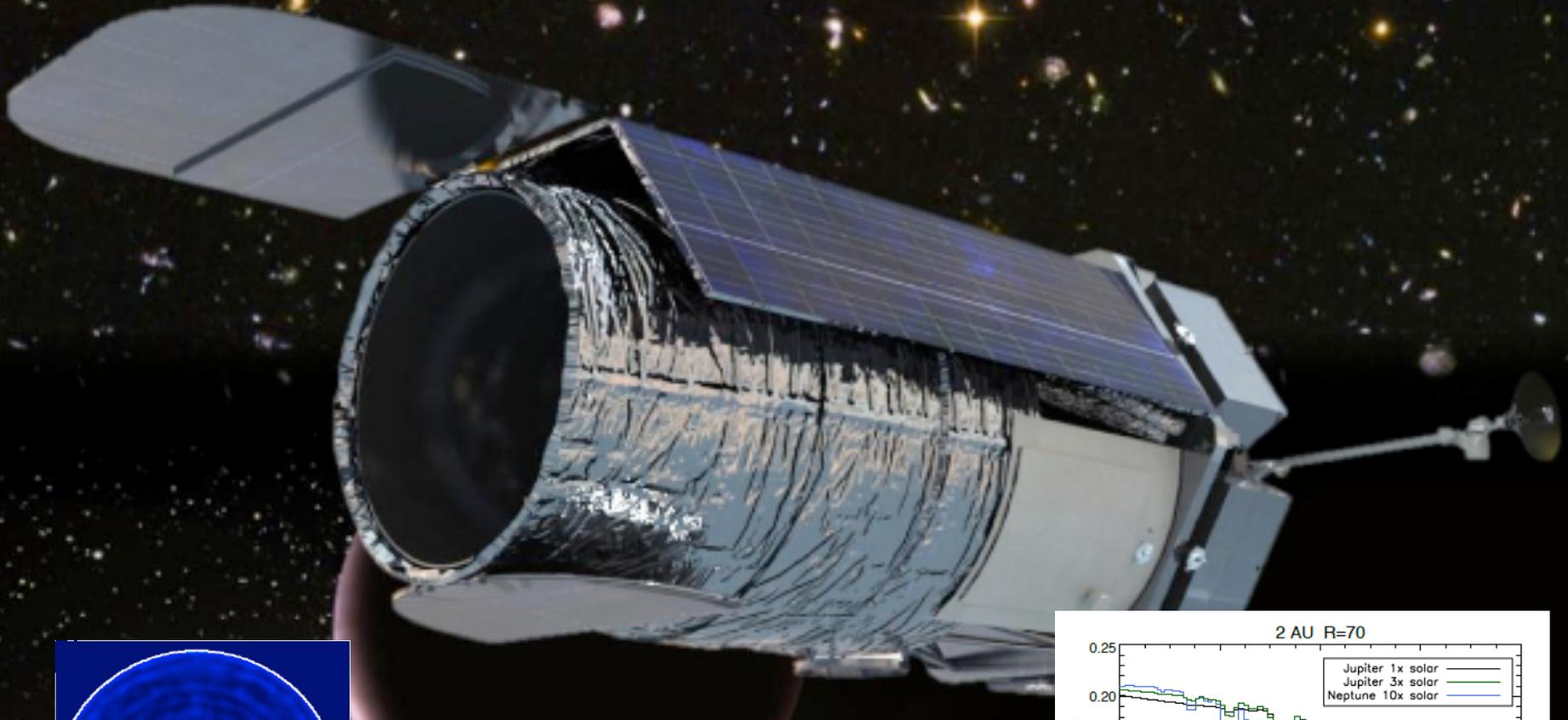
WFIRST MICROLENSING FIELD

SAGITTARIUS



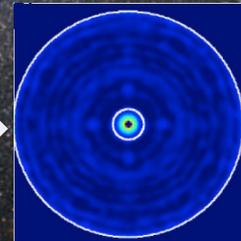
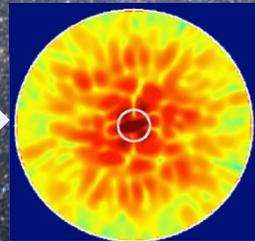
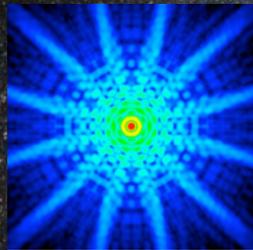
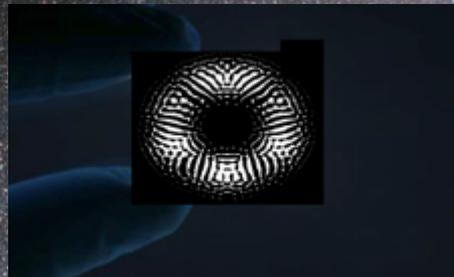
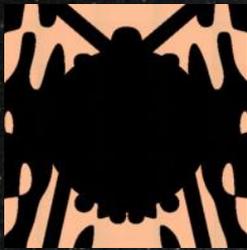
WFIRST / AFTA

Dark Energy, IR Survey, Exoplanet Census, Imaging and Spectroscopy



Technologies for High-Contrast Imaging

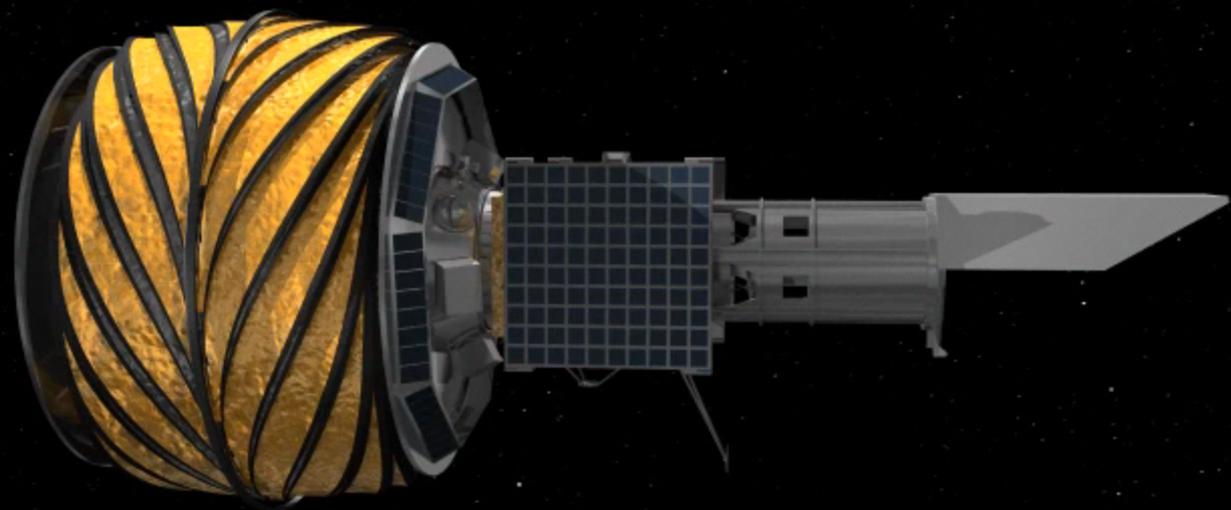
Coronagraph Masks (Internal Occulters)



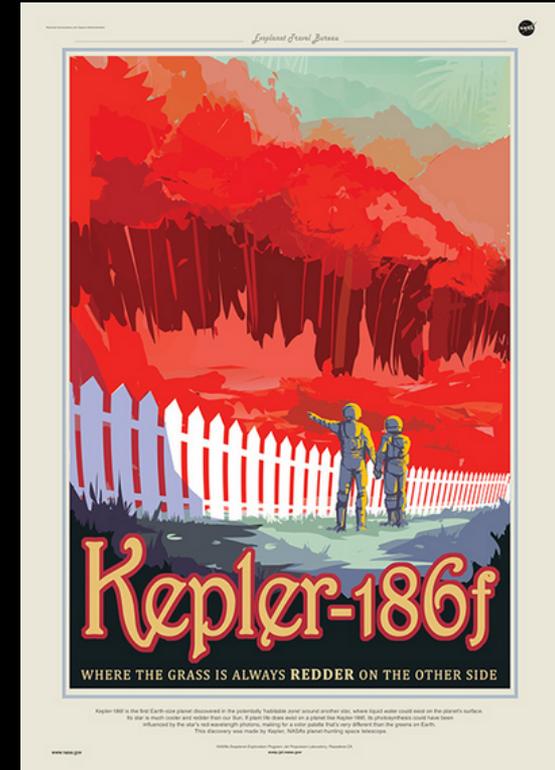
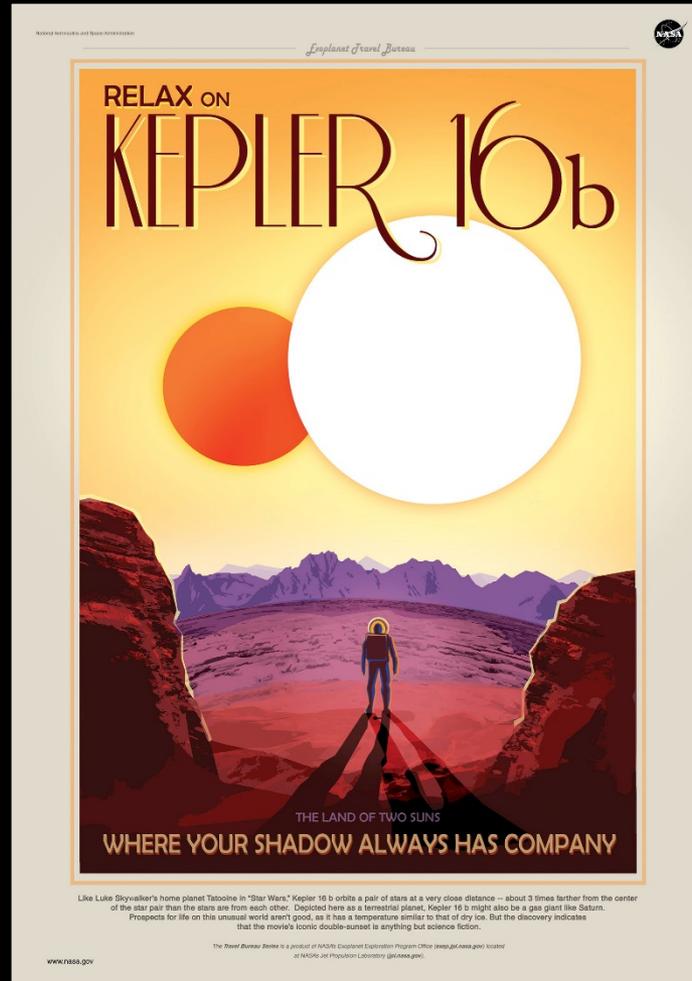
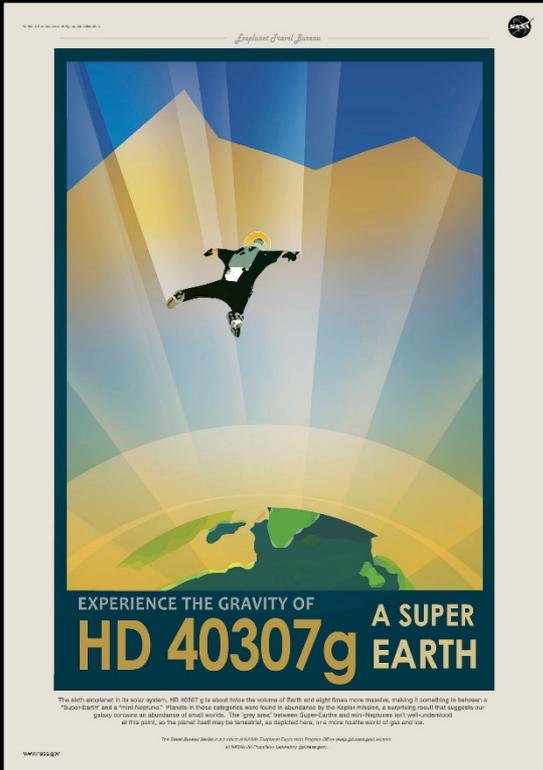
Technologies for High Contrast Imaging

Starshades (External Occulters)





Where will exploration take us in 100 years? Introducing the *Exoplanet Travel Bureau*



Next Travel Poster Release: Aug 3

Exoplanet Missions



Hubble¹

Spitzer

Kepler

TESS

JWST

WFIRST

PLATO

CHEOPS

Gaia

New Worlds Telescope

CoRoT²

NASA Missions

ESA/European Missions

Imagine your role in the discovery of Habitable Worlds and the Search for Life in our Galaxy

¹ NASA/ESA Partnership

² CNES/ESA



National Aeronautics and
Space Administration

Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California

Acknowledgements

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University of Arizona

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