Jet Propulsion Laboratory
California Institute of Technology

Exoplanet Exploration Program Overview

Dr. Gary H. Blackwood, Program Manager

Jet Propulsion Laboratory

California Institute of Technology

June 24, 2021

ExoPAG 24, Virtual

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Artist concept of Kepler-16b

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

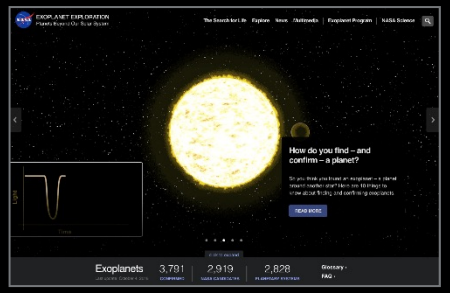
Space Missions and Concept Studies

Large- and Probe-Scale Mission Concepts

Coronagraph

Starshade

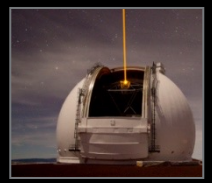
Exoplanet Communications



Supporting Research & Technology

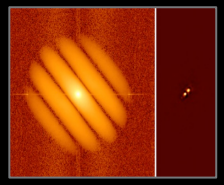
Key Sustaining Research

NN-EXPLORE



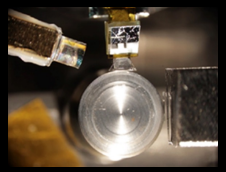
Keck Observatory

Large Binocular Telescope Interferometer

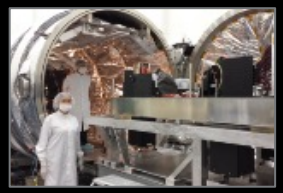


High Resolution Imaging

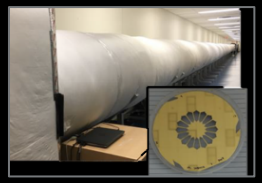
Technology Development



Extreme Precision Radial Velocity Technology Development

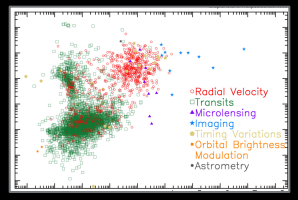


Coronagraph Technology Development



Starshade Technology Development (S5)

NASA Exoplanet Science Institute (NExScI)



Archives, Tools, Sagan Program, Professional Engagement

NASA Exoplanet Exploration Program

Astrophysics Division, Science Mission Directorate

Change since last ExoPAG


Program Office (JPL)

PM - Dr. G. Blackwood
DPM – Dr. C. Moran
Chief Scientist - Dr. K. Stapelfeldt
Chief Technologist - Dr. N. Siegler


Program Analysis Group (ExoPAG)

Dr. M. Meyer, EC chair

Technical Assessment Committee (ExoTAC)

Dr. A. Boss, chair


Program Science Office

PCS - Dr. K. Stapelfeldt
DPCS - Dr. E. Mamajek
Scientist - Dr. T. Kataria
Program Post Doc - Dr. J. Burt


Program Engineering Office

Chief Engineer - K. Warfield
Optical Engineer - Dr. R. Morgan
System Engineer - R. Lock



Program Business Office

Manager - R. Lemus
Admin. – J. Gregory

Mission Assurance

Manager - P. Lock

Staff Assistant – K. Miller

Staff Assistant – R. Gonzalez


Business Operations

Program Bus. Mgr. M. Romejko
Resources – D. Spadaro
Schedules – E. Mend

Program Development Management

Manager - Dr. J. Callas,
High Resolution Imaging Project

Exoplanet Communications (JPL)

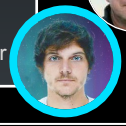
Manager - A. Biferno


NN-EXPLORE Project

PM - Dr. J. Callas, JPL
PI - Dr. S. Mahadevan, PSU
Project Scientist
- Dr. B.J. Fulton, CIT


Program Technology (JPL)

Manager - Dr. N. Siegler
Deputy - Dr. B. Crill
Dpy Manager - Dr. P. Chen
Program Post Doc- Dr. A. Potier

LBTI Project

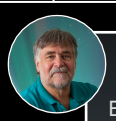
PM - Dr. P. Willems, JPL
PI - Dr. P. Hinz, UCSC/UA
PS - Dr. C. Gelino, CIT


Universe of Learning (JPL)

Manager - A. Biferno


High Resolution Imaging Project (ARC)

PI - Dr. S. Howell
ExoFOP - Dr. D. Ciardi, CIT




NExScI

Ex Dir - Dr. C. Beichman, JPL/CIT
Dep Dir - Dr. D. Gelino, CIT
Chief Scientist - Dr. D. Ciardi, CIT
NExScI Mgr - Dr. S. Carey, CIT



Starshade Technology Project (JPL)

PM - Dr. P. Willems
PS - Dr. R Hu

Welcome!

Deputy Program Manager,

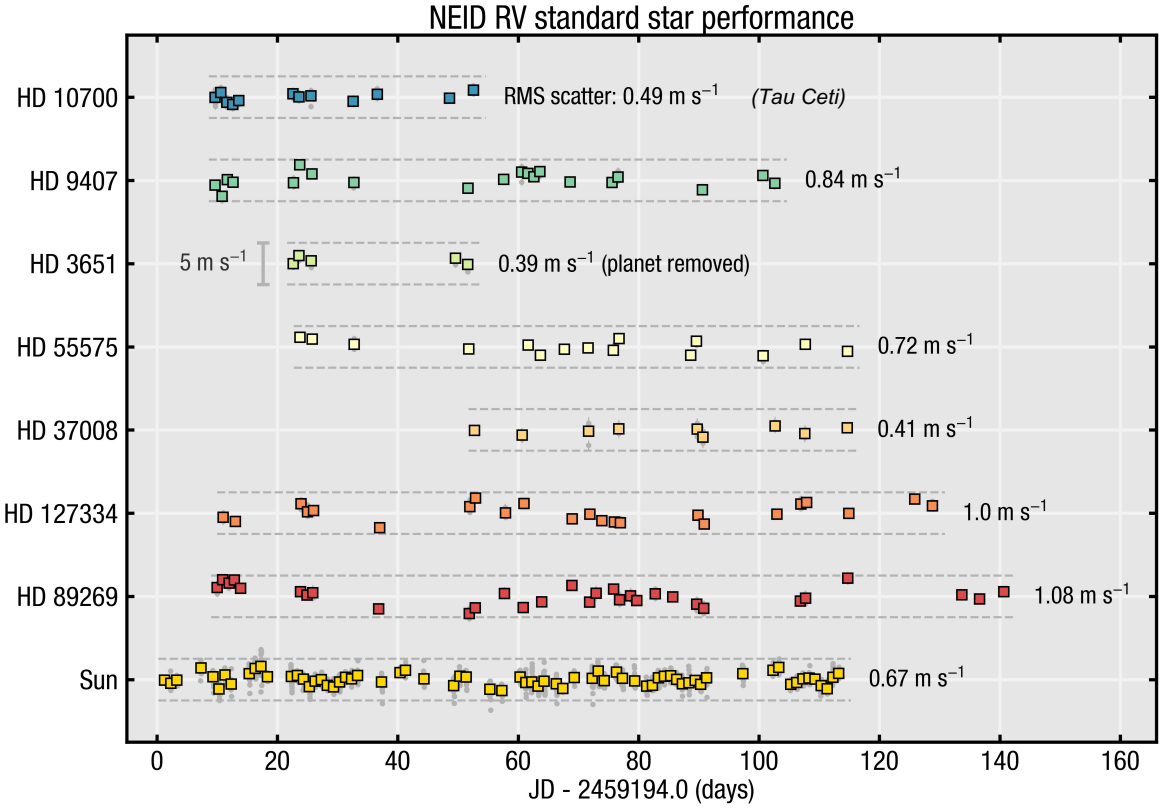
Dr. Christine Moran

NEID Now On-Sky

ExoPlanet Exploration Program

NEID on the 3.5-meter WIYN telescope completed commissioning and passed the operational readiness review with "flying colors."

- On-sky RV performance exceeds requirements with real-world RVs below 50 cms^{-1} (see chart).
- NEID solar and standard stars data to be released shortly.
- GTO begins July 1, 2021.
- GO continues, now without "shared-risk".



2021 WEBBY Award

NASA's Exoplanet Exploration

NASA/JPL

THE WEBBY AWARDS

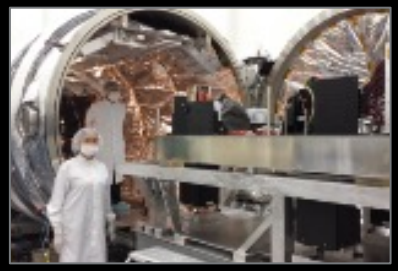
Websites and Mobile Sites

Science

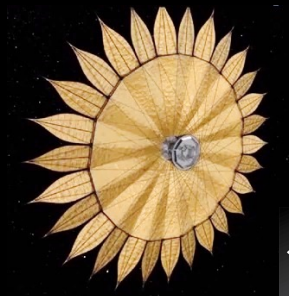
Webby Winner

A Few Highlights

Others Covered in Subsequent Presentations



- Support to Roman Coronagraph Instrument
  - High Contrast Imaging Testbed



- Starshade
  - Technology and Science Working Group
  - Dedicated JATIS Issue
  - Science and Industry Partnership

Starshade edges treated by ZeCoat

- Extreme Precision Radial Velocity (EPRV) Working Group: Final Report coming soon

Explore: to traverse for the purpose of discovery; to scrutinize, to examine

Inspire: to fill with animating influence; to impel

Aspire: to seek ambitiously, with intent, towards a goal with high value; to ascend, to soar.

Exoplanets, and the Search for Life, are Aspirational

They Draw us, and Impel us

To Explore and Inspire

Credit: Nick Siegler

Jet Propulsion Laboratory
California Institute of Technology

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exoplanets.nasa.gov

Acknowledgements

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