



Jet Propulsion Laboratory
California Institute of Technology

Exoplanet Exploration Program (ExEP) Office

Dr. Dawn Gelino, Program Manager
Jet Propulsion Laboratory
California Institute of Technology

May 5, 2024

ExoPAG 30, Providence, RI

Dr. Dawn Gelino – ExEP Program Manager

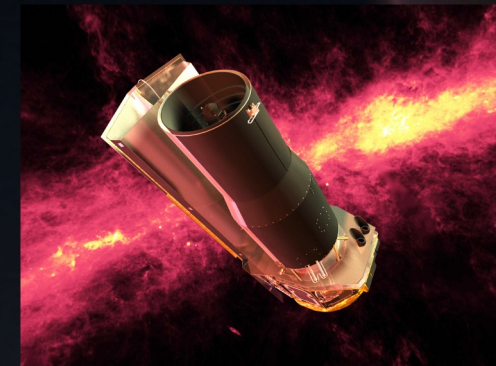
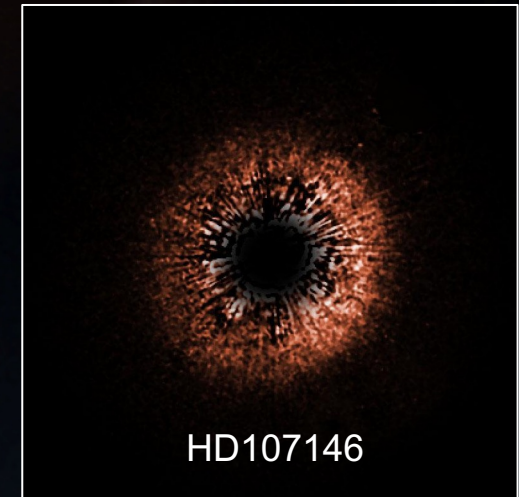
- As of 6 days ago...Former Deputy Director for the NASA Exoplanet Science Institute
 - Science Affairs Task Lead (Sagan Summer Workshop)
 - NASA Keck Operations Lead
 - NASA’s Nexus for Exoplanet System Science (NExSS) Lead (Astrobiology!)
 - NASA Hubble Fellowship Program Sagan Lead
- AAS Vice President 2023-2026
- Community advocate
- Mom of 2 teens
- Dawn.Gelino@jpl.nasa.gov



David R. Ardila – Deputy Manager



- I am the current NN-EXPLORE Manager – will continue for a while...
- As astronomer, I have worked in exoplanet science using high contrast imaging and UV spectroscopy
- At JPL I have worked also in new mission formulation
- I am the SPARCS instrument scientist (Star-Planet Activity Research CubeSat)
- Herschel liaison for the US Astronomical community; Spitzer Infrared Spectrograph Calibration

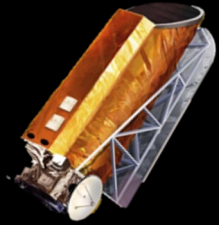


NASA Exoplanet Exploration Program



Mission Concepts

IR / O / UV Mission Concepts

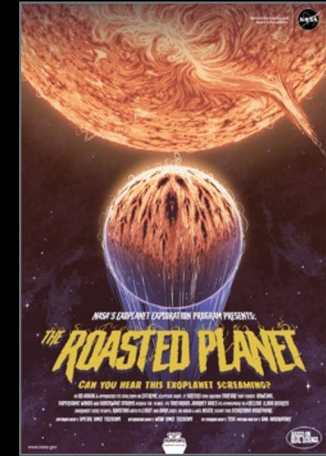
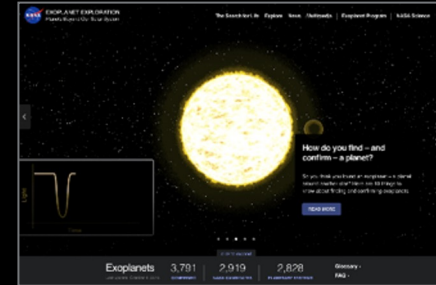


Coronagraph



Starshade

Exoplanet Communications



Supporting Research & Technology

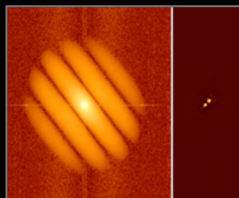
Key Sustaining Research



NN-EXPLORE

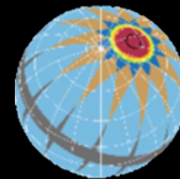
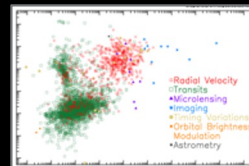


Keck Observatory



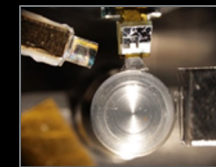
High Resolution Imaging

NASA Exoplanet Science Institute (NExSci)

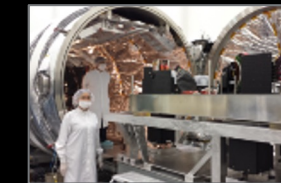
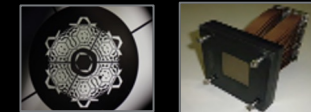


Archives, Tools, Sagan Program, Professional Engagement

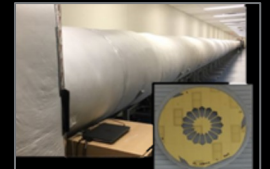
Technology Development



Extreme Precision Radial Velocity Technology Development



Coronagraph Technology Development

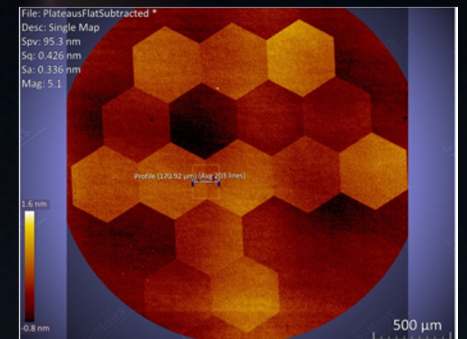


Starshade Technology Development (S5)

Recent Program Highlights

Technology

- Completing three technology roadmaps on **Deformable Mirrors**, **Coronagraph Technology** and **Coronagraph Architecture Survey**
 - Briefings scheduled as part of **Technology Colloquium Series** and open to the public - first is on May 20
- Updating NASA Astrophysics **Technology Gap List** (with PhysCOS / COR technologists) - public webinar on May 14; community submissions due June 3.
- Support to Habitable Worlds Observatory and GOMAP: co-chairing Technology Working Groups on **Coronagraphs** and **Detectors**
- Coronagraph **technology demonstrations** in the High Contrast Imaging Testbed continue for Strategic Astrophysics Technology Principal Investigators



Recent Program Highlights

Science

- NASA-NSF Exoplanet Observational Research Program (NN-EXPLORE): Guest Observing Opportunities
 - [NEID Spectrograph](#) on 3.5m Kitt Peak WIYN telescope
 - Southern Hemisphere radial velocity opportunities on [SMARTS/Chiron](#) and [MINERVA-Australis](#)
 - [High Resolution Speckle Imaging](#) of exoplanet host stars at WIYN, Gemini-North and South
 - [NExSci is the Science Center](#) that processes and archives the data
- [Extreme Precision Radial Velocity](#)
 - Research Coordination Network very active – all are welcome!
 - Solar data archived for NEID and soon for EXPRES



Recent Program Highlights

Science Engagement

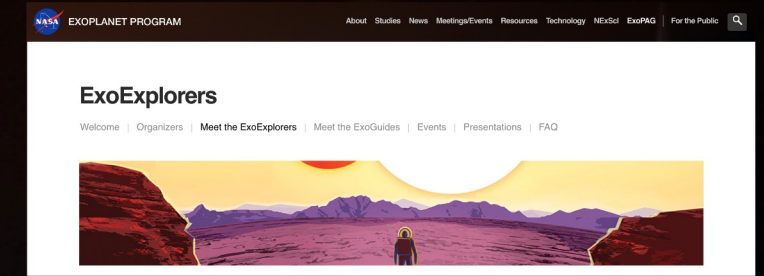
- **Eclipses & Exoplanets Outreach**
Bilingual outreach highlighting exoplanet detection with transits and coronagraphs



Upcoming:

PROTO Sagan Workshop (July 21) *PROfessional Tools & Opportunities*

- Hybrid ½ Day Workshop, covering astronomer nuts and bolts:
 - *Careers - Postdoc & permanent job tips*
 - *Working with NASA - Proposing missions and securing funding*
 - *Mission Design - From decadal survey to spacecraft mission formulation*
- Open to all: students to professional staff



ExoExplorers: 2024 Cohort

Zahra Ahmed
Stanford University

James Mang
UT Austin

Lili Alderson
University of Bristol

Fuda Nguyen
University of Arizona

Galen Bergsten
University of Arizona

Alex Polanski
University of Kansas

Michaela Leung
UC Riverside

Maria Vincent
UH at Manoa

Garrett Levine
Yale University

Daniel Yahalomi
Columbia University

- 🖱️ **Register online (free) to join:** <https://nexsci.caltech.edu/workshop/2024/proto.shtml>

Recent Program Highlights

Public Engagement

- Led content migration of exoplanets.nasa.gov to science.nasa.gov/exoplanets, and continuing to manage agency Exoplanets thematic social media accounts (*now 1.9M followers!*)
- Exhibited at concert featuring Japanese composer **Miho Hazama**, who drew inspiration from exoplanet science for her new album *Beyond Orbits*. Captured interview on the intersection of art and science ft. Anjali – in edit now.
- Celebrated **15 years of direct imaging** (Beta Pictoris Anniversary), pairing a story with a social media campaign to generate 1.6M impressions!
- Co-led **ExEP presence at AAS** w/science engagement
- Successful Exo activation at **SD Comic-Con**, debuting characters to capture public interest + *looking to go bigger this year w/ Exoplanet-themed panel!*
- **Currently working on a logo for the ExoPAG!**

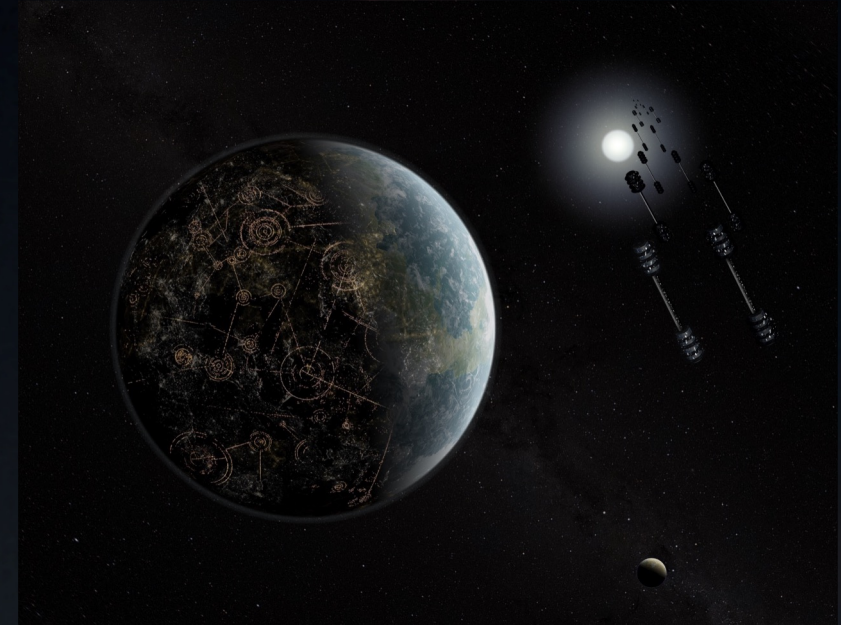


Events, talks, lectures	Stories/Features	Physical/Digital Products
7	17	44

* Annual Production Stats (4/23 - 4/24)

ExEP Support for Astrobiology

- Technosignatures Survey - a fact-finding study to inform NASA where it can make a positive impact in the investigation of technosignatures
- ExoPAG Technosignatures SAG to compile information on how NASA's efforts in astrobiology can better serve technosignature research (Lead: Jason Wright)
- HWO Target list
- Radial Velocity work and EPRV RCN
- Starlight Suppression Technology
- How can ExEP do more to help the astrobiology community?



*Exoplanets and Search for Life are Aspirational:
They Draw us, and Impel us
to Explore other Worlds and to Inspire our Own*






Jet Propulsion Laboratory
California Institute of Technology

exoplanets.nasa.gov

NASA Exoplanet Exploration Program

Astrophysics Division, Science Mission Directorate

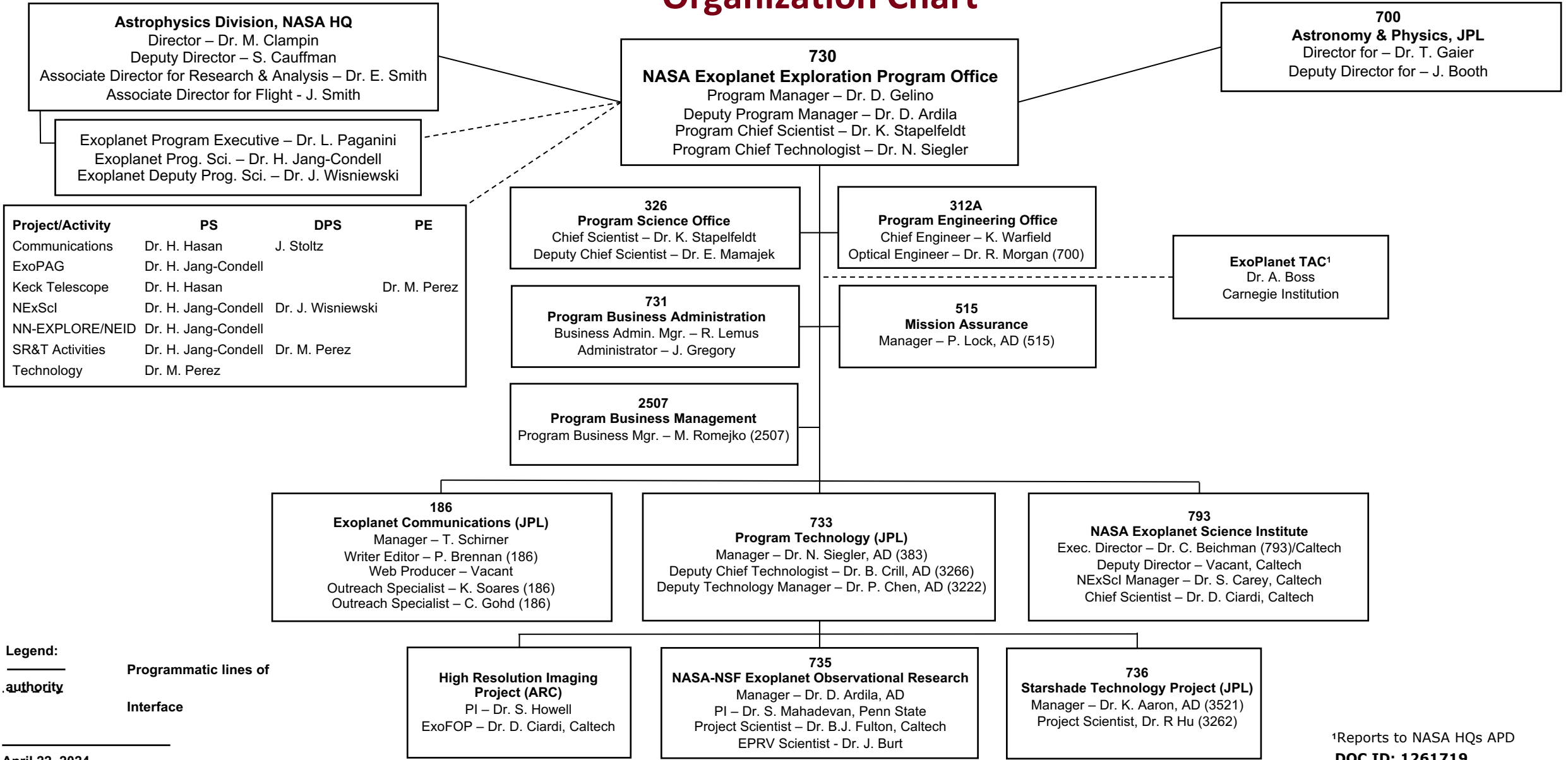


Changes since last ExoPAG 



After:

NASA Exoplanet Exploration Program Organization Chart



Project/Activity	PS	DPS	PE
Communications	Dr. H. Hasan	J. Stoltz	
ExoPAG	Dr. H. Jang-Condell		
Keck Telescope	Dr. H. Hasan		Dr. M. Perez
NExScI	Dr. H. Jang-Condell	Dr. J. Wisniewski	
NN-EXPLORE/NEID	Dr. H. Jang-Condell		
SR&T Activities	Dr. H. Jang-Condell	Dr. M. Perez	
Technology	Dr. M. Perez		

Legend:

Programmatic lines of authority

Interface

Acknowledgements

This work was carried out at the Jet Propulsion Laboratory, California Institute of Technology under contract with the National Aeronautics and Space Administration.

© 2024. All rights reserved.