



Jet Propulsion Laboratory
California Institute of Technology

NASA Headquarters Update

Dr. Gary Blackwood (for Martin Still, NASA HQ)

Exoplanet Exploration Program Manager

Jet Propulsion Laboratory, California Institute of Technology

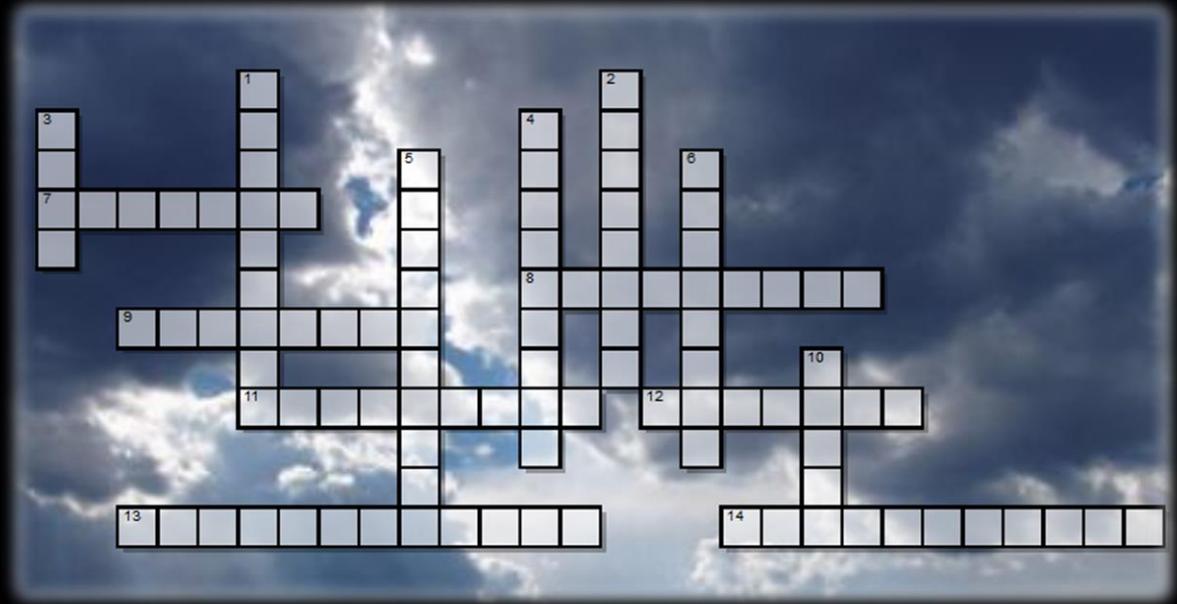
January 5, 2019

ExoPAG 19, Seattle WA

Some Organizations Relevant to ExoPAG

Refresher for Newcomers and Regulars

- ExoPAG
- ExoPAG EC
- APAC
- NASA APD
- ExEP
- ExEPO
- NExSci
- ExoTAC



Exoplanet Program Analysis Group

- ExoPAG
- ExoPAG EC
- APAC
- NASA APD
- ExEP
- ExEPO
- NExSci
- ExoTAC
- Serves as a community-based forum for soliciting and coordinating community analysis and input for NASA Exoplanet Exploration objectives
- Provides findings of analyses to the NASA Astrophysics Division Director: not advisory like APAC
- Enables direct regular communication between NASA and the community, and within the community through open meetings
- Consists of all members of the stakeholder community who participate in these open meetings
- Work organized through Study Analysis Groups and Science Interest Groups

Exoplanet Program Analysis Group

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From Terms of Reference:

<https://exoplanets.nasa.gov/exep/exopag/>

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.

ExoPAG Executive Committee

- ExoPAG
 - ExoPAG EC
 - APAC
 - NASA APD
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 - NExSci
 - ExoTAC
- ExoPAG activities and meetings organized through an Executive Committee
 - Selected by NASA HQ through a Dear Colleague letter
 - Appointments are made annually for staggered 3 year terms

2018 ExoPAG Executive Committee Members (green = new for 2018)

Victoria Meadows <i>Chair</i>	University of Washington	Dmitri Mawet	Caltech
Rebecca Jensen-Clem	UC Berkeley	Tyler Robinson	Northern Arizona University
Eliza Kempton	University of Maryland	Michael Meyer	University of Michigan
Jessie Christiansen	NExSci/Caltech	Johanna Teske	Carnegie Institution for Science
Tom Barclay	NASA GSFC	Chris Stark	STScI
Tiffany Glassman	Northrop Grumman	Alan Boss <i>Past Chair, Emeritus</i>	Carnegie Institution
		Martin Still <i>Ex Officio</i>	NASA Headquarters

Astrophysics Advisory Committee

<https://science.nasa.gov/researchers/nac/science-advisory-committees/apac>

- ExoPAG
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 - ExoTAC
- Reports directly to the NASA Astrophysics Division Director
 - ExoPAG chair is typically member of APAC
 - Federal **Advisory** Committee Act (FACA) sanctioned

APAC Members

- Feryal Ozel; Chair - University of Arizona
- Marshall (Mark) Bautz - Massachusetts Institute of Technology
- Alan Boss - Carnegie Institution of Science
- Patricia Boyd - Goddard Space Flight Center
- Laura Brenneman - Harvard-Smithsonian Center for Astrophysics
- John Conklin - University of Florida
- Asantha Cooray - University of California, Irvine
- Brenda Dingus - Los Alamos National Laboratory
- Debra Fischer - Yale University
- Kelly Holley-Bockelmann - Vanderbilt University
- William Jones - Princeton University
- Victoria Meadows - University of Washington
- Leonidas Moustakas - Jet Propulsion Lab
- Paul Scowen - Arizona State University
- Beth Willman - AURA/University of Arizona
- Charles Woodward - University of Minnesota

NASA Astrophysics Division

<https://science.nasa.gov/astrophysics/>

- ExoPAG
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 - APAC
 - **NASA APD**
 - ExEP
 - ExEPO
 - NExSci
 - ExoTAC
- NASA Headquarters, Washington DC
 - APD is a Division within the NASA Science Mission Directorate
 - Sets policy for NASA Astrophysics
 - Makes annual funding decisions

Division Director

Paul Hertz

Deputy Director

Jeff Volosin



Change since last ExoPAG

NASA Exoplanet Exploration Program

<https://science.nasa.gov/about-us/smd-programs/ExEP>

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- ExEP is a program within APD and is responsible for setting priorities and designing strategy and tactics to achieve program goals
 - ExEP is the union of the ExEPO and cognizant Program Scientists (PS) and Program Executives (PE) at NASA HQs
 - PE and PS: Set policy, make decisions

	<u>Program Scientist</u>	<u>Program Executive</u>
Exoplanet Exploration (EXEP)		
Program	Doug Hudgins	Shahid Habib.
Tech. Dev.	Doug Hudgins	
Keck	Hashima Hasan	Mario Perez*
Kepler/K2	Mario Perez*	Jeff Hayes
LBTI	Doug Hudgins	Mario Perez*
NN-EXPLORE	Doug Hudgins	Mario Perez*

- ExEPO implements and manages program

Change since last ExoPAG

NASA Exoplanet Exploration Program Office

[Exoplanets.nasa.gov/exep](https://exoplanets.nasa.gov/exep)

- ExoPAG
- ExoPAG EC
- APAC
- NASA APD
- ExEP
- Program Office managed for NASA by JPL/Caltech, located in Pasadena CA
- Implements, analyzes, recommends to NASA
- Extension of HQs to serve the exoplanet community
- Responsible for managing projects, activities, studies, technology, archives, communications

• ExEPO

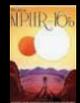
• NExSci

• ExoTAC

High Contrast
Imaging Testbed



Starshade
Lab

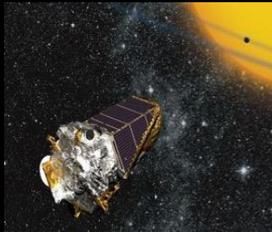
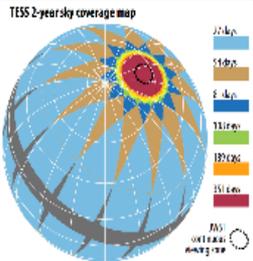
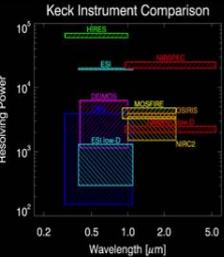
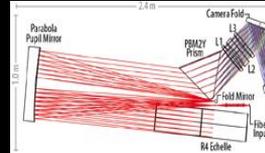


Program
Office

NASA Exoplanet Science Institute

<http://nexsci.caltech.edu/>

- ExoPAG
 - ExoPAG EC
 - APAC
 - NASA APD
 - ExEP
 - ExEPO
 - **NExSci**
 - ExoTAC
- Located on the Caltech Campus
 - Integral part of Exoplanet Exploration Program
 - Serves the exoplanet science community

Sagan Program & Community Support	Exoplanet Archive	Long Term Archives	Keck Operations and Archive	NN-Explore (NEID PRV)
				
				

380 – 930 nm
R~100,000
PRV=27 cm/s

Keck Observatory Archive **KOA**

Exoplanet Technical Assessment Committee

<https://exoplanets.nasa.gov/exep/technology/technology-overview/>

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- Supports Program Chief Technologists
 - Performs independent assessment of SAT milestone plans and completion
 - Reviews the Programs technology selection and prioritization process
 - Performs independent assessment of trade study processes and results

Alan Boss, Chair

Carnegie Institution for Science

David Miller

Massachusetts Institute of Technology
The Aerospace Corporation

Rebecca Oppenheimer

American Museum of Natural History

Joe Pitman

The Heliospace Corporation

Lisa Poyneer

Lawrence Livermore Laboratory

Stephen Ridgway

National Optical Astronomy Observatory

NASA APD Implementation Plan Update

<https://science.nasa.gov/astrophysics/documents>

- Plan to achieve strategic objectives, implement Astro2010 recommendations and plan for Astro 2020
- Updates on JWST (LRD 3/21), WFIRST, TESS, and full APD mission portfolio
- Updates on New Worlds technology
- Smallsats: of 9 selected for study, 3 have exoplanet-related science cases: mDOT, MASS, SEEJ
- Trends in R&A and technology investments
- Plans for Astro2020 and statement of task
- Status on SMD Strategic Data Management Working Group and in-Space Assembled Telescopes study

