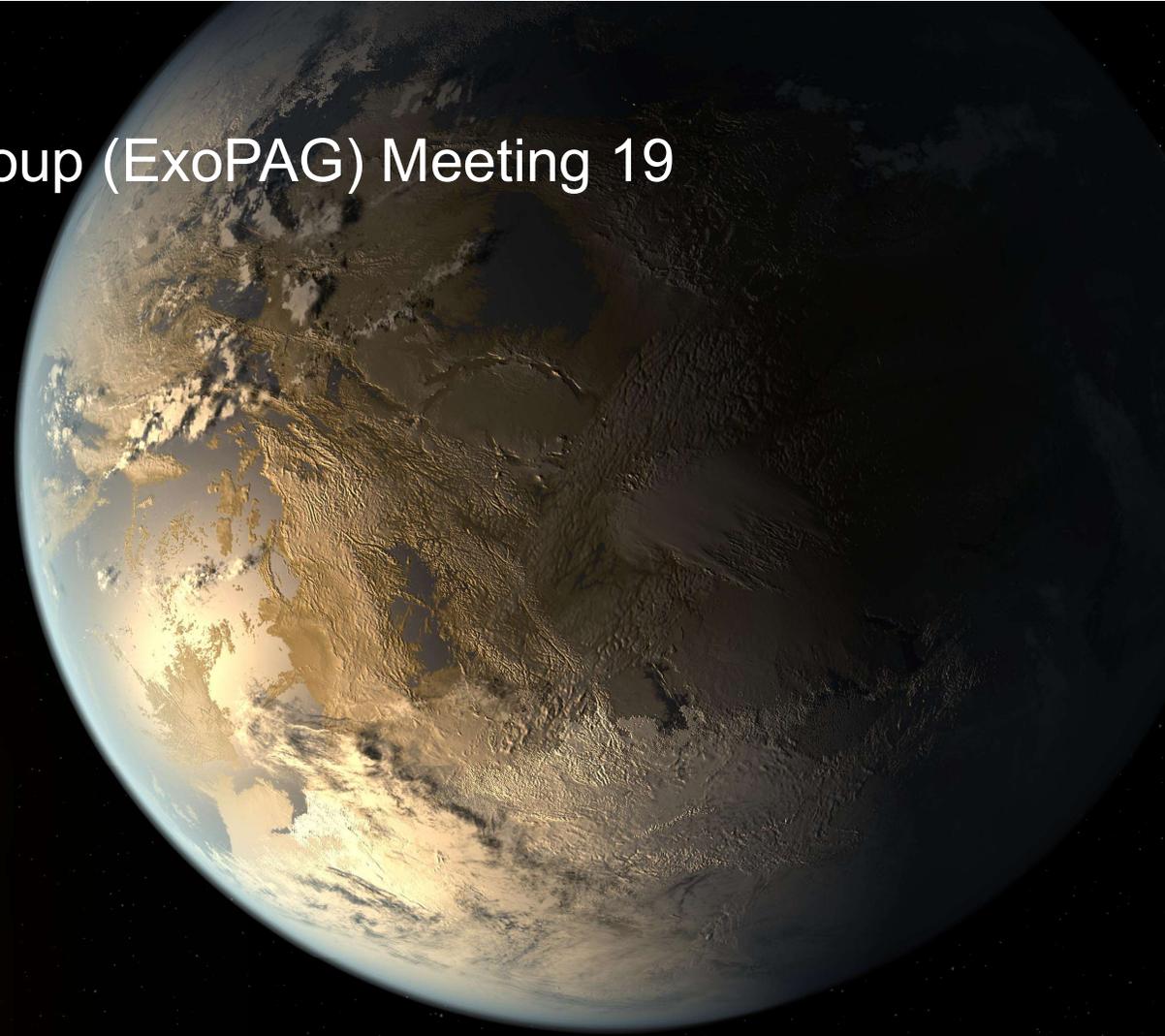


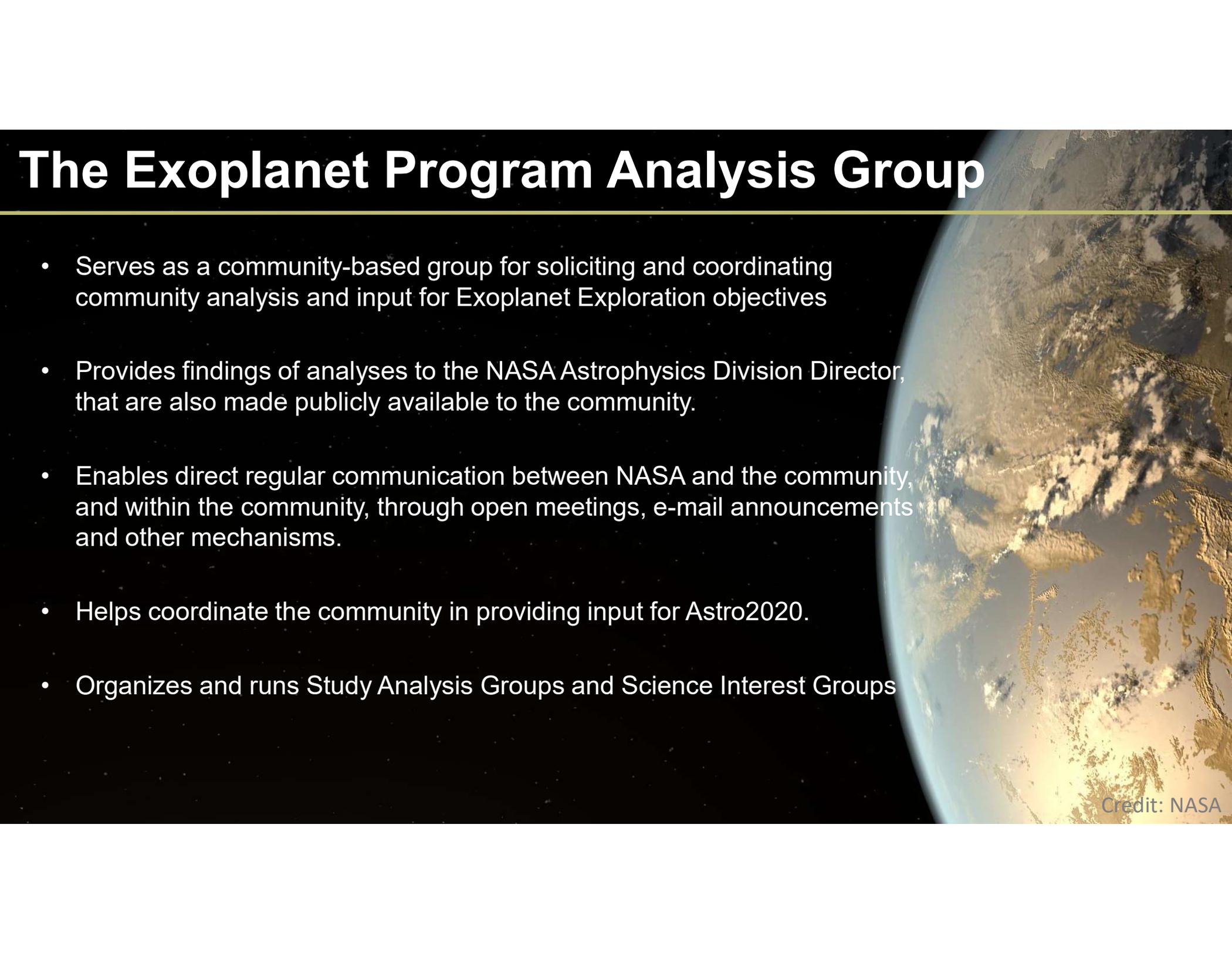
Exoplanet Program Analysis Group (ExoPAG) Meeting 19  
Bellevue, WA, June 23rd, 2019  
Welcome.

Victoria Meadows (UW, ExoPAG Chair)



Credit: NASA

# The Exoplanet Program Analysis Group



- Serves as a community-based group for soliciting and coordinating community analysis and input for Exoplanet Exploration objectives
- Provides findings of analyses to the NASA Astrophysics Division Director, that are also made publicly available to the community.
- Enables direct regular communication between NASA and the community, and within the community, through open meetings, e-mail announcements and other mechanisms.
- Helps coordinate the community in providing input for Astro2020.
- Organizes and runs Study Analysis Groups and Science Interest Groups

Credit: NASA

# There are many opportunities for input

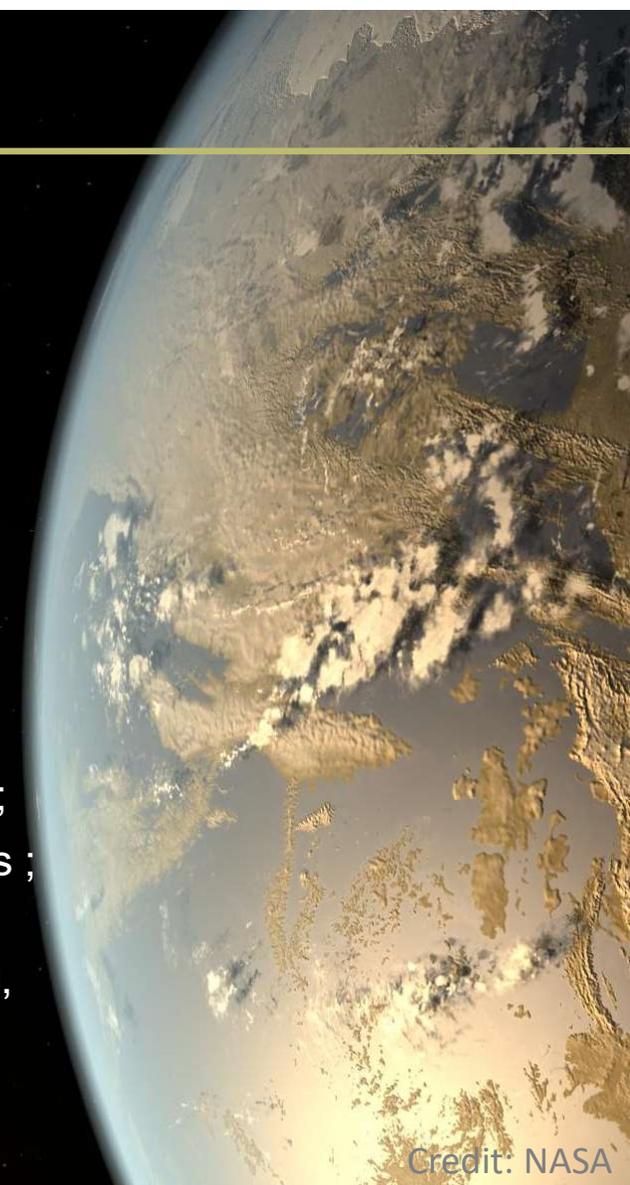
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Via ExoPAG you can provide community input into the Exoplanet Exploration Program and NASA regarding exoplanet exploration.

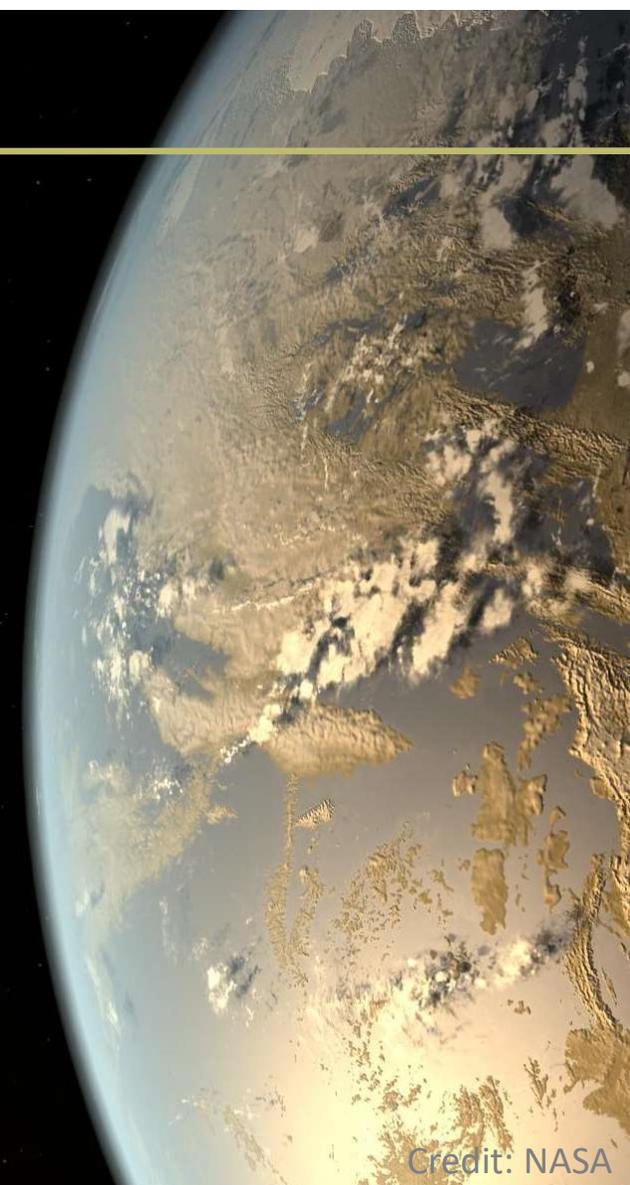
Particular areas and activities include:

1. Articulating and prioritizing the key scientific drivers for Exoplanet Exploration research
2. Evaluating the expected capabilities of potential ExEP missions for achieving the science goals of the Program
3. Evaluating ExEP goals, objectives, investigations and required measurements on the basis of the widest possible community outreach;
4. Articulating and prioritizing focus areas for needed mission technologies ; and
5. Providing findings on related activities such as ground-based observing, theory and modeling programs, laboratory astrophysics, suborbital investigations, data archiving and community engagement.

Credit: NASA



# This is your ExoPAG



The full ExoPAG consists of *all members of the community who participate in ExoPAG activities*

You, the community are the members of ExoPAG.

If you want to contribute, there are several mechanisms to do this:

- Participate in our meetings
  - And you are doing this...thank you!
- Science Interest Groups (SIGs)
  - Open ended discussions on topics of interest to the community
- Study Analysis Groups (SAGs)
  - Focused, short-term activity

Any community member can lead a SIG or SAG! Pick a topic, generate your own idea, contact the ExoPAG EC.

**Join the ExoPAG announcements list at :**  
**<https://exoplanets.nasa.gov/exep/exopag/>**

Credit: NASA

# ExoPAG Executive Committee

ExoPAG activities and meetings are organized through an Executive Committee

## **Victoria Meadows (Chair)**

**University of Washington**

Tom Barclay

University of Maryland, Baltimore County

Jessie Christiansen

NExSci/Caltech

Rebecca Jensen-Clem

UC-Berkeley

Tiffany Kataria

JPL/Caltech

Eliza Kempton

University of Maryland

Michael Meyer

University of Michigan

Josh Pepper

LeHigh University

Dimitry Savranski

Cornell

Chris Stark

Space Telescope Science Institute

Johanna Teske

Carnegie Observatories

Alan Boss (Past Chair)

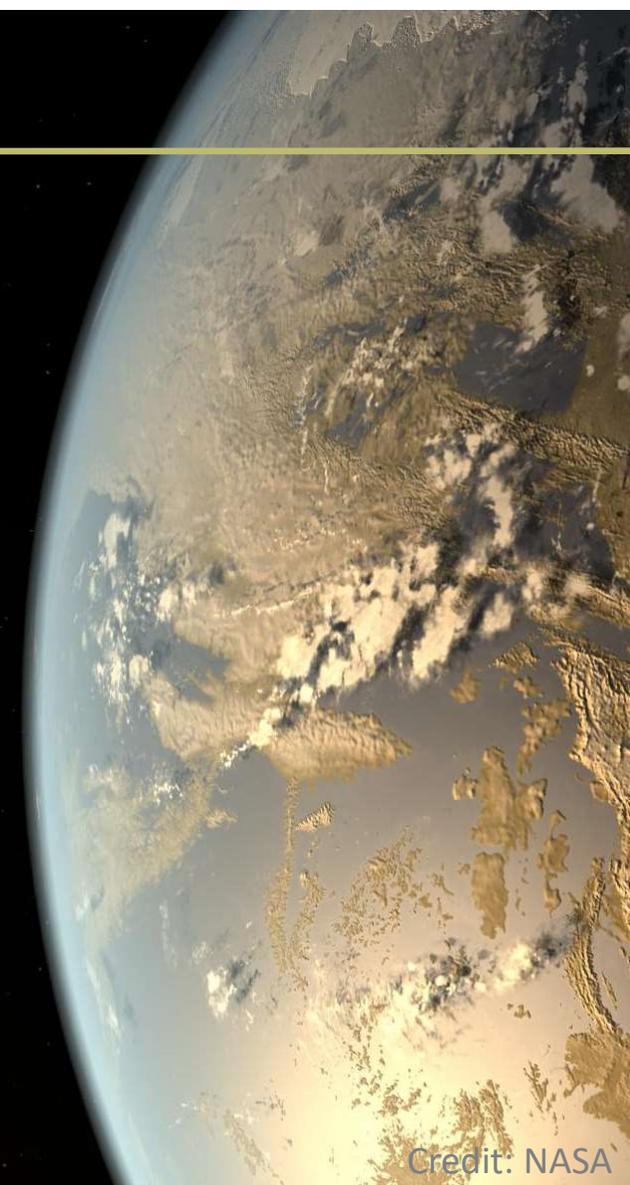
Carnegie Institution of Washington

Martin Still (ex officio)

NASA

Selected by NASA for 3-year terms. Calls for membership every year!

Credit: NASA



# 2019 Status of SAGs and SIGs

Closeout Year	SAG or SIG	Title	Lead
2018	SAG 16	Exoplanet Biosignatures (closed)	Domagal-Goldman
2018	SAG 17	Community Resources Needed for K2 and TESS Planetary Candidate Confirmation (closed)	Ciardi & Pepper
--	SAG 19	Exoplanet imaging signal detection theory and rigorous contrast metrics (active - closeout expected in 2019)	Mawet & Jensen-Clem
--	SIG 2	Exoplanet Demographics (initiated since last meeting)	Christiansen & Meyer
--	SAG 20	Impact of JWST Delay on Exoplanet Science (initiated since last meeting)	Teske & Deming
--	SAG21	The Effect of Stellar Contamination on Space-based Transmission Spectroscopy	In formulation

# ExoPAG Recent Activities

- Held the ExoPAG19 meeting in Seattle, Jan 5-6, 2019, prior to the Winter AAS.
  - During the govt shutdown, run with only NASA/JPL participation
  - Mini-science symposium on characterization of nearby planetary systems.
  - Showcase forum for exoplanet inputs to the Decadal Survey.
- Hosted a Google spreadsheet on the ExoPAG website to enable community-driven coordination of science white papers for the Decadal (63 white papers by the deadline).
- Currently hosting an additional google spreadsheet for community coordination of Decadal White Papers on A/P/SotP on the ExoPAG website. You can solicit coauthors and cosigners Please add your papers!
- Mawet and Jensen-Clem organized a community data challenge for ground-based direct detection as the final phase of the SAG 19 activities.
  - Goal is the fair comparison of algorithms for post-processing high-contrast imaging sequences.
- Teske and Deming completed the JWST delay community impact survey for SAG20
- Meyer and Stevenson participating in the Great Observatories cross-PAG SAG, Meyer and Ciardi lead Working Group 2 “Exoplanets”. Currently working on report for this SAG.
- Meadows is serving as ExoPAG representative on the SOC for a joint VExAG/ExoPAG/OPAG conference “Exoplanets in Our Backyard”, in Feb 2020.
- EC Brainstorming new SAG/SIG ideas and reviewing the Science Gap List. Responding to “Community Suggestions List” from ExoPAG19 meeting.



PLANET HOP FROM  
TRAPPIST-1

Credit: NASA

VOTED BEST "STUDY ABROAD" DESTINATION

# ExoPAG 2019/2020 Future Activities

- Hold ExoPAG20 on June 23<sup>rd</sup>, 2019, prior to AbSciCon in Seattle, WA.
  - Emphasis on habitable planets, interdisciplinarity, and joint planetary/exoplanetary projects.
- Continue working with ExEP to map the Science Gap List to key areas for SAGs/SIGs.
- Provide EC input and facilitate community suggestions for updates to the ExEP Science Gap List over the summer.
- Continue to work on Community Suggestions List and solicit more input here at ExoPAG20.
- Continue monthly ExoPAG EC and SIG2 telecons
- Finish work of SAG-19 (Imaging) and request closeout
- Finish final report for SAG-20 (JWST delay) and request closeout.
- Complete charter and proposal for SAG-21 (Stellar Contamination).
- Participate in Great Observatories SAG with CoPAG and PhysPAG.
- Work with VExAG and OPAG on organizing the “Exoplanets in our Backyard” conference.
- 3 new EC members (Kataria, Pepper, Savransky) will take us in new directions for SAGs/SIGs.

**ExoPAG 20 Agenda**  
**June 23, 2019 Bellevue, WA**  
**Hyatt Regency Bellevue- Regency Room DEFG**

See the ExoPAG website for remote connection info: <https://exoplanets.nasa.gov/exep/events/270/exopag-20/>  
 All times are PDT

		<b>Session Chair</b>	<b>Michael Meyer</b>
9:00	0:10	Welcome and Introduction to ExoPAG	Vikki Meadows
9:10	0:30	NASA Headquarters Update	Martin Still
9:40	0:15	Report Out On SAG20 (Survey on the Community Impact of the JWST Delay)	Drake Deming (remote)
9:55	0:20	Kepler Occurrence Rates and Eta Earth	Chris Burke
10:15	0:15	SIG2 Exoplanets Demographics Report	Jessie Christiansen
10:30	0:30	<b>Break</b>	
		<b>Session Chair</b>	<b>Jessie Christiansen</b>
11:00	0:20	ExEP Report on Future of Extreme Precision Radial Velocity	Eric Mamajek
11:20	0:30	Understanding Star-Planet Interactions and Space Weather, from X-ray to Radio	Rachel Osten (Remote)
11:50		<b>Lunch</b>	

11:50		<b>Lunch</b>	
		<b>Session Chair</b>	<b>Vikki Meadows</b>
1:00	0:15	Observing Small Planets with JWST, Capabilities and Challenges	Natasha Batalha
1:15	0:15	The Detectability and Characterization of the TRAPPIST-1 Exoplanet Atmospheres with JWST	Jacob Lustig-Yaeger
1:30	1:00	Large Mission Concepts for Future Terrestrial Exoplanet Characterization: Overview and Discussion	Giada Arney, Scott Gaudi, Tiffany Kataria
2:30	0:30	ExEP Technology Report on Coronagraph Testbeds, Starshade, Detectors	Nick Siegler
3:00	0:30	<b>Break</b>	
		<b>Session Chair</b>	<b>Chris Stark</b>
3:30	0:30	Discussion of Community Needs for Molecular Opacities/Laboratory Astrophysics	Eliza Kempton and Natasha Batalha
4:00	0:40	VExAG/OPAG/ExoPAG Synergies	Vikki Meadows, Stephen Kane, Kathy Mandt
4:40	1:00	Science Gap List Discussion and General Suggestions	Karl Stapelfeldt, Vikki Meadows, Gary Blackwood
5:40		Adjourn	

If you have input on the Science Gap List, or suggestions on new activities or exoplanet community needs for the ExoPAG you can raise them in the 4:40 question session, or write them down in the ExoPAG Suggestions Google Doc, which can be found on the ExoPAG website!