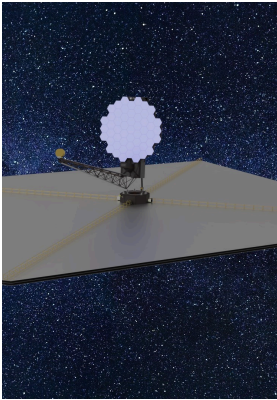


The **Ultraviolet/Visual** Science Interest Group of the Cosmic Origins  
Program Analysis Group (**UVSTIG** – COPAG)

Invites you to attend the AAS 241 Splinter Session in Seattle on

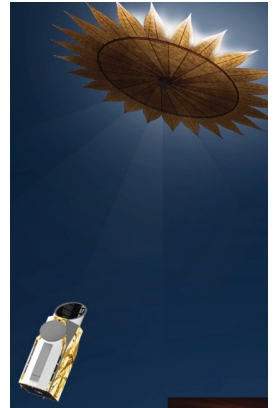
# Science and Technology Tradespace for the **Habitable Worlds Observatory**: Working Towards a Design Reference Architecture

Tuesday 13:30 – 15:30 PST 10 January 2023 – Rm 211



## • Speakers

- **Decadal Science Goals**: Jason Tumlinson
  - **Telescope**: Lee Feinberg
  - **Coronagraph**: Emiel Por
- **Multi-Object Spectrograph**: Kevin France
- **High-Definition Imager**: Shouleh Nikzad
- **Star Shade**: Aki Roberge and Scott Gaudi
- **Workforce Development**: Rachael Beaton
- **GOMAP Process**: Julie Crooke



## • Summary

The highest priority of the Astro2020 Pathways to Discovery was recommendation of a large (~6m diameter) near Infrared, Optical, Ultraviolet Space Telescope (newly christened - **Habitable Worlds Observatory** - HWO) to be fielded sometime in the 2040's for the purpose of understanding how, when and where life emerges throughout the cosmos. The instruments for such an ambitious mission include: a **Coronagraph** -- for assessing the planetary population in the local solar neighborhood; a **Multi-Object Spectrograph** -- for surveying a diversity of Milky-Way and extra-galactic environments for the dispersion of metals and radiation that can support or inhibit life as we know it; and a **High-Definition Imager** -- for surveys of similarly diverse environments at coarser spectral resolution, but deeper sensitivity. Each instruments seeks to maximize wavelength coverage from the **far-UV** to the **near-IR**. Quantifying how technical choices, such as effective focal ratio, the number of and shape of primary segments, mirror coating bandpass, number of bounces, wavefront control systems, detector dimensions/sensitivity, etc ... will impact the science yielded by the overall system, is a necessary preliminary step towards defining the architecture of a Design Reference mission. The speakers have been asked to articulate their technical "tall-poles", gauge potential impact on science, and estimate requirements for workforce development.

This session is intended to bring the systems engineering tradespace dialog to the community and begin the work towards a consensus on early technical maturation priorities for GOMAP that will maximize the science return of HWO. The organizers have made a concerted effort to assemble a diverse set of presenters and to reach the general membership of the AAS for an inclusive audience.

Virtual Attendance Via Webex (no AAS registration necessary)

<https://nasaenterprise.webex.com/nasaenterprise/j.php?MTID=m2f42a1bf04af3d1f4651db0a70aafd0c>

Meeting number: 2762 618 5642 Password: NASA\_AAS23\_Sig!

NASA COPAG AAS241 activities can be found at [https://cor.gsfc.nasa.gov/copag/AAS\\_Jan2023/](https://cor.gsfc.nasa.gov/copag/AAS_Jan2023/)