

Science Interest Group #1: Virtual Town Hall #3

August 18, 2015

Scott Gaudi

(SIG#1 Chair)

Meeting structure.

Tuesday August 18, 2015 (all times PM EDT)

- 1:00–1:30 Introduction and Summary of Current Status
- 1:30–3:30 Discussion of Draft Report
- 3:30–4:00 Path Forward, Additional Writing Assignments?

Suggested Report Format.

- Process followed by the PAG to solicit input.
- Brief description of the community response.
- Procedure and criteria used for PAG analysis of community response.
- Outcome of the analysis and final small set of mission concepts ... every mission concept that is retained, added or subtracted must be accompanied by a short rationale.
- And additional considerations for NASA.
 - If desired, information regarding potential probe-class missions, to inform any future process for considering probe-class mission studies.

Initial list of missions.

Taken from NASA Roadmap (Surveyors)
and Decadal Survey (HabEx)

- Far IR Surveyor
- Habitable–Exoplanet Imaging Mission
- UV/Optical/IR Surveyor
- X–ray Surveyor

What is *not* in our charge.

1. Detailed science goals or requirements.
2. Detailed architectures or technology requirements.
3. Advocacy or Advice (rather: “Analysis”)
4. Prioritization of the suggested missions.
5. “Ownership” of any mission concept by any individual PAGs
6. Don’t attempt to prepopulate the STDTs (Note: these are likely to be competitively selected).

Timeline/Meetings for Hertz Charge (completed).

- *January 2014: Initial discussion at ExoPAG 9.
- March 2014: APS approves SIG #1.
- June 2014: Brainstorming session at ExoPAG 10.
- January 2015: Brainstorming session at ExoPAG 11, Paul's charge.
- February 2015: First dedicated SIG #1 Meeting, brainstorming & consensus building.
- March 10 COPAG Virtual Town Hall
- March 19, 2015: Joint PAG EC meeting.
- April 11–14 2015, Am. Phys. Soc. (Baltimore) – PhysPAG
 - SIGs and PCOS mini-symposium
- June 2, 2015: ExoPAG Virtual Meeting
- June 3–5, 2015: Far-IR Workshop (Caltech) – COPAG
- June 13–14, 2015: ExoPAG #12 (Chicago) – ExoPAG
 - Half to full day to be spent on charge (2nd day)
- June 25–26, 2015: UV/Vis SIG Meeting, Greenbelt, MD – COPAG
- July 1, 2015: panel discussion during the HEAD meeting (Chicago) – PhysPAG
- July 3, 2015: joint PAG EC Chair telecon.
- July 13, 2015: joint PAG EC Chair telecon with Paul Hertz
- July 14, 2015 – ExoPAG Virtual Meeting
- August 7, 2015 – Joint PAG Splinter Session at IAU, 1–5pm

Timeline/Meetings for Hertz Charge (future).

- August 18, 2015 - ExoPAG Virtual Meeting
- August 20, 2015 - COPAG Virtual Town Hall
- Now - October 7: Finalizing the report
- October 7, 2015: Deliver report to APS
- October 22+23, 2015: APS Meeting, Washington, DC

ExoPAG/COPAG Discussions.

- Some vigorous discussions amongst various ExoPAG and COPAG members.
 - SIG2 report did not explore COR science with HabEx.
 - Some members of the COPAG consider HabEx and LUVOIR as on a continuum of missions; HabEx is a “descope” of LUVOIR.
 - Worries that ExoPAG is advocating for HabEx.
 - Worries that COR science is “descopeable” for HabEx.
 - Worries that exoplanet science is “descopeable” for LUVOIR.
- These are being resolved:

The COPAG and ExoPAG concur that, in order to ensure broad support for the HabEx and LUVOIR missions within both the exoplanet and cosmic origins communities, significant science capabilities in both topical areas must be baselined for these missions.

To be included and highlighted in both ExoPAG and COPAG reports.

Suggested Topics of Discussion.

- Authorship
- COPAG/ExoPAG Joint Statement.
- Prioritization:
 - Order of presentation of missions.
 - Exoplanet-driven (exoplanet-only?) mission
- Biosignatures for LUVOIR only?
- THEIA versus Theia
- Space-based high-contrast mid-infrared interferometry.
- Transit characterization probe mission
 - Table?
 - Probe scale mission oversold?
- Astrometry probe mission
 - Too detailed?
 - Precursor/validation for direct imaging?
- Posting to arXiv?