ExoPAG Report

NAC Astrophysics Subcommittee Meeting
August 12, 2014

Scott Gaudi
(ExoPAG EC Chair)

EC Membership.

- Current EC members.

Scott Gaudi (*Chair)*	Ohio State
Rus Belikov	NASA Ames
Nick Cowan	Northwestern
Jonathan Fortney	U.C. Santa Cruz
Dave Latham	SAO
Amy Lo	Northrop Grumman
Peter Plavchan	Caltech/NexSci
Gene Serabyn	JPL
Remi Soummer	STScI
Maggie Turnbull	Global Science Institute
Lucianne Walkowicz	Princeton University
Wes Traub (*Ex officio)*	JPL
Doug Hudgins (*Ex officio)*	NASA Headquarters

Activities since March 2014.

- Appointed 3 new EC members.
- Continued work on current SAGs and SIG.
- One meeting:
  - ExoPAG 10, June 6, Boston, MA
- Organizing ExoPAG 11. 225th AAS

Current SAGs, Part 1.

- SAG4: Planetary Measurements Needed for Exoplanet Characterization – Lisa Kaltenegger
  - Draft report completed.
- SAG8: Requirements and Limits of Future Precision Radial Velocity Measurements – Dave Latham, Peter Plavchan
  - Presentations at ExoPAG 6, 7, 8, 9, 10.
  - Report started, final report by end of year.
- SAG9: Exoplanet Probe to Medium Scale Direct-Imaging Mission Requirements and Characteristics – Rémi Soummer
  - Reports at ExoPAG 8, 9, 10.
  - Scope revised, regular telecons, final report by end of the year.

Current SAGs, Part 2.

- SAG10: Characterizing the Climate of Transiting Planets with JWST and Beyond (Nick Cowan, Chair)
  - Presentations at ExoPAG 8, 9
  - Draft report completed, final report by end of the year.
- SAG11: Preparing for the WFIRST microlensing survey (Jennifer Yee, Chair)
  - Presentations at ExoPAG 8, 9, 10.
  - Final report submitted.

ExoPAG 10.

- June 6, Boston, MA
  - Day after the 224th AAS Meeting.
- Topics:
  - Update on existing SAGs.
  - Mini-workshop: *Direct Imaging Technology Future Paths*
  - Presentation on PLATO.
  - Discussion of new SAG on Astrometry.
  - Also joint COPAG/ExoPAG meeting earlier in the week.
- Talks available online:
  - http://exep.jpl.nasa.gov/exopag/exopag10/agenda/

Resolutions.

1. "Participants of the ExoPAG 10 support the study by the Exo-S STDT of making WFIRST-AFTA Starshade compatible."
2. "Participants of the ExoPAG 10 encourages NASA to investigate possible opportunities to participate in the PLATO mission."
3. "Participants of the ExoPAG 10 are strongly in favor of continuing the important exoplanet science uniquely enabled by Spitzer, including both exoplanet atmospheres and microlensing."

(All unanimous among those who voted)

Suggestion for a new SAG.

SAG 12: “Scientific potential and feasibility of high-precision astrometry for exoplanet detection and characterization.”

Key questions and goals that this group will address are:

1. What is the scientific potential of astrometry for different precision levels? What types of planets can be studied with astrometry? How effective is astrometry to confirm planet candidates?

2. What are the technical limitations to achieving astrometry of a given precision? Can we implement observation strategies or post processing to improve the astrometry? What are the hardware changes that would enable high-precision astrometry on planned missions?

3. Identify mission concepts that are well suited for astrometry and study potential collaboration with current and future European astrometry missions.

SAG 11 Final Report.

- Preparing for the WFIRST Microlensing Survey – Jennifer Yee, Chair
- Programs that will enhance WFIRST science and reduce the mission's scientific risk:
  - Precursor HST single-epoch, optical imaging of the WFIRST fields.
  - Multi-epoch HST/WFC3/IR imaging of a subset of the fields.
  - Ground-based near-IR microlensing survey.
  - Development of techniques and expertise (*Spitzer*, K2 microlensing programs)