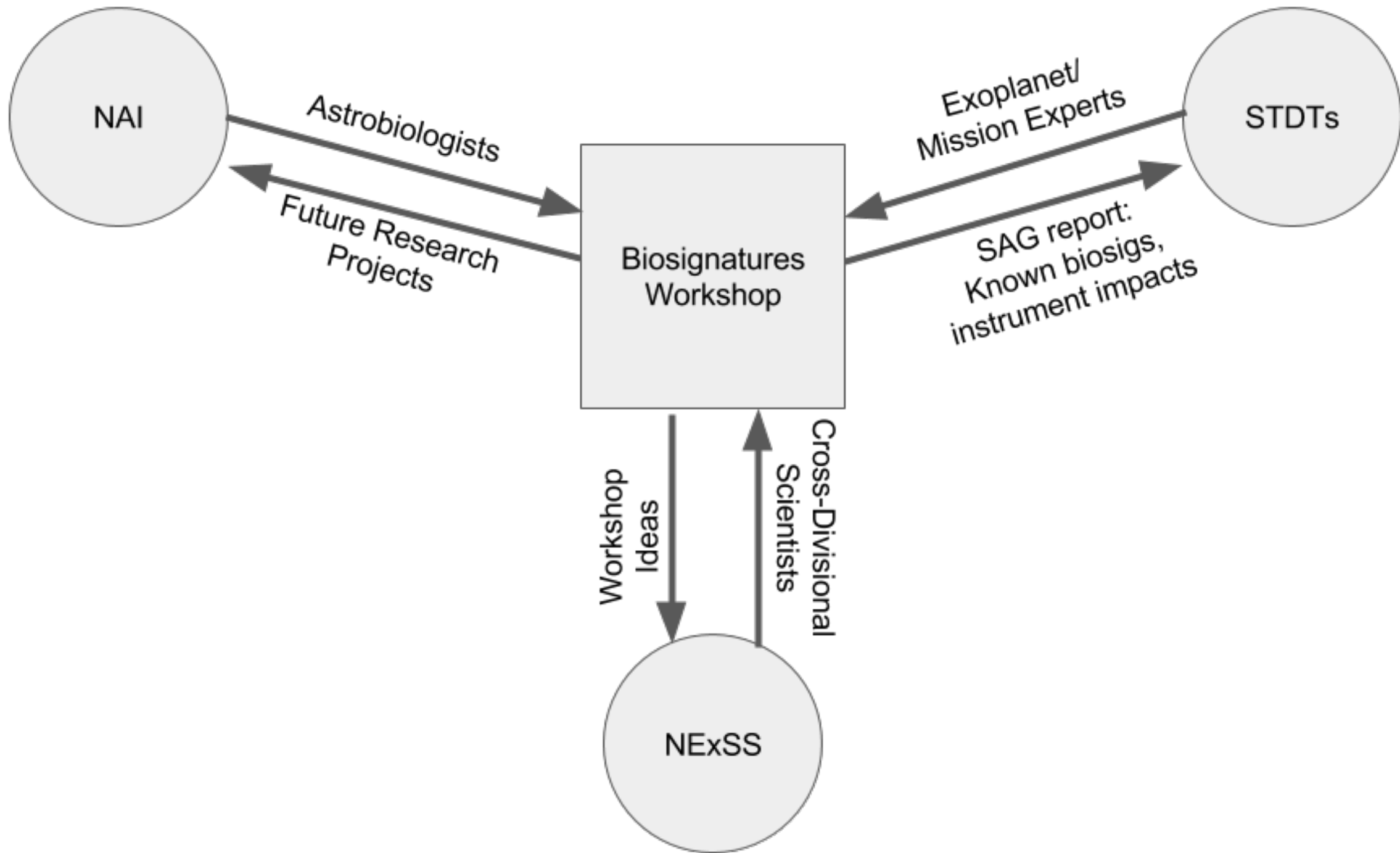


# SAG 16 Update

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# Science Goals

1. What are known remotely-observable biosignatures, the processes that produce them, and their known non-biological sources?
2. How can we develop a more comprehensive framework for identifying additional biosignatures and their possible abiotic mimics?
3. What standards can we agree to utilize for assessing biosignature observations - both known biosignatures and those we have yet to identify?

# Pre-Workshop Activities

- Two groups will be active: a workshop planning group and the broader SAG group.
- The workshop planning group will be dealing with workshop logistics – invitations, reservations, speaker confirmations, etc.
- The SAG group will be working on the things we can address through remote interactions. For example, a list of the previously proposed remotely detectable biosignatures.

# In-Person Workshop

- Focus will be on conversation, not “information downloads”
- For each of 2-3 topic areas, we will start with ~1 hour of overview talks. We will then break into discussion groups with specific questions to be addressed. For example:
  - “What are the frameworks for developing novel biosignatures?”
  - “What research is needed to develop these frameworks?”
  - “Which of these research areas require interdisciplinary collaboration?”
- Discussion groups will report their findings – areas of consensus and disagreement will be noted.

# Post-workshop activities and deliverables

- Post-workshop activities will be focused on wrapping up this effort with deliverables. Examples of deliverables could include:
- a table of currently known (and published) biosignatures, as well as the wavelength ranges and resolutions needed to observe them;
- a summary of proposed comprehensive framework(s) for biosignatures in the context of alien planetary environments;
- a list of research topics that need to be pursued to advance biosignature science and/or the frameworks for identifying them;

## Deliverables (cont.)

- a prioritization of workshops required to enable that research by further breaking down disciplinary barriers;
- a list of the types of observations required to make a biosignature assessment to different levels of confidence, with a framework for consensus;
- a “how-to guide” for STDTs that want to utilize the document to guide mission development or prioritize technology investment.

# Timeline

- Start informal SAG effort – January, 2016 (post-AAS)
- First SAG meetings January/February, 2016
- In-person workshop: June/July, 2016
- Draft of workshop findings (powerpoint slides): July/August, 2016
- Draft of SAG report: October, 2016 (pre-DPS)
- Circulation of report for community input: Oct, 2016 – January, 2017
- Final report: February 2017