

# Double Anonymous Proposal Process

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FORCAST  $19\mu\text{m}$ ,  $37\mu\text{m}$ ; Herschel  $70\mu\text{m}$ ; Spitzer  $3\mu\text{m}$   
USRA | NASA | SOFIA | Spitzer | Herschel

Galactic  
Center



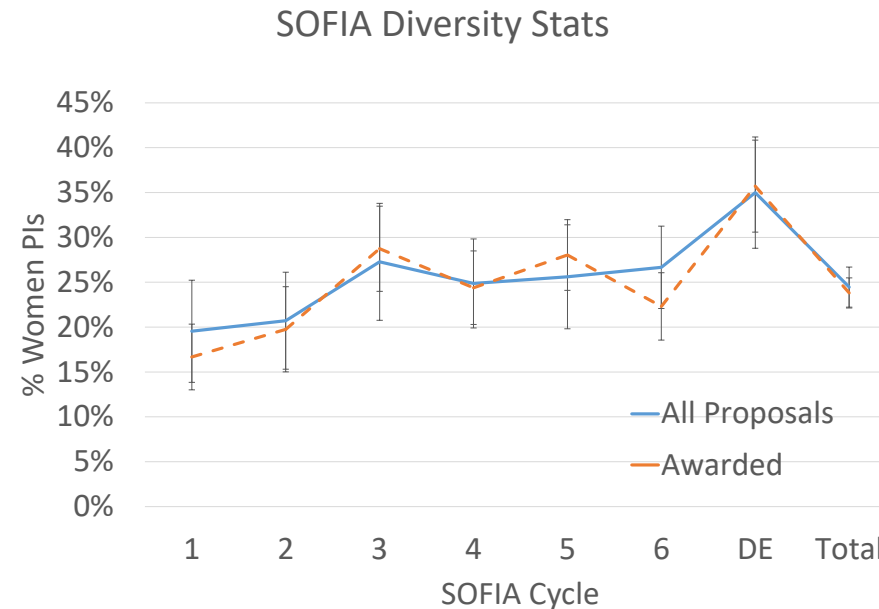
Galactic Center dust and magnetic  
fields: NASA/SOFIA  
star field image: NASA/HST

# The Issue

- STScI has performed significant studies on bias in proposal evaluation
  - “From 2001 to 2012, the success rates for HST proposals led by female principal investigators (19%, on average) were worse than the success rates of their male counterparts (23%)”
- They have found a significant [hidden] bias, in the face-to-face discussion
  - “[Carefully observing the process, they] found no evidence of gender bias in the preliminary grading that determined which proposals made it to the discussion stage. It was only in the in-person discussions that bias reared its head, and [they] noted a potential reason for it: Much of the in-person discussion on a given proposal focused on the track record of the applicant and colleagues, rather than on the science he or she was proposing to do.” (Physics Today March 2019)
- This is mirrored in the SOFIA TACs

# Proposal Acceptance Statistics

- **Astronomy faculty members who are women in U.S. departments that offer an astronomy degree and no physics degree (2014. Source: AIP): 20%**
- **IAU members who are women (2018. Source IAU): 18%**
  - IAU members age 30-40: ~33% women
- **SOFIA proposal stats. - submitted and accepted:**



# However...

- Over the 9 (SOFIA) TACs that I have observed, **the** most common bias issue I've noticed is related to what STScI found:
  - Reviewers who [paraphrasing] say:
    - “So-and-so, [or, this group] is very good and even if the proposal isn't that well written [he/she/they] will do good work”
  - I have not observed outright gender or ethnic bias (if anything, the panels tend to be very aware of these issues)
- While SOFIA does not have a (detected) gender bias, there is therefore evidence for other biases
- Is this strong enough, or important enough to change the process?

# STScI's Solution

- STScI found that simply “scrambling” the PI/co-I list is not enough
- Double anonymous means:
  - Proposals have to be written without reference to “us”, “our previous results”, etc.
  - No information available to the reviewers (while grading) on any of the proposers or organizations
    - HST allows the team members and their expertise to be revealed **after** the grades are set – with a 0/1 multiplier allowed to account for team’s ability to carry out the program
  - STScI also found a need for “levelers” whose job is to remind the panels when their discussions veer off the review criteria
- Will take modification of USPOT and process
- Requires that the proposers learn to write anonymously
- STScI are very happy with their results

# Possible Objections

- “The IR community is small, reviewers will figure out who the proposer/team is”
  - STScI says that in most cases where their reviewers thought they had – they were wrong
- “We need to know the abilities of the team to evaluate whether they can analyze/will be able to publish the data”
  - If someone can write a very good proposal it’s likely that they know how to analyze the data
  - STScI says that when the TAC did not discuss the team, they spent more time discussing, and did a better job of evaluation, the science merit
- “SOFIA has many programs that need to be re-proposed because they may not be completed in a cycle. How would a proposer say: ‘We propose to complete our program’? “
  - Can be done with [general] reference to pending observations

# Implementation

- As with any significant change in procedures implementing a double-anonymous proposal process will take time and resources
  - Will likely take at least two cycle to fully implement
- Is the alleviation of hidden [institutional, age, ethnic, nationality...] biases worth the cost and effort?
- Questions?