

NAS Diversity & Inclusion Committee Presentation on Demographic Data

Louis Barbier, NASA Associate Chief Scientist
March 9, 2021



Demographics Data Collection

WHY THIS INFORMATION IS BEING COLLECTED:


The Federal Government has a continuing commitment to monitor the operation of its review and award processes to identify any inequities based on gender, race, ethnicity, or disability. NASA asks that you provide information about your gender, race, ethnicity, and disability status in order to ensure compliance with Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d et seq., Title IX of the Education Amendments of 1972, 20 U.S.C. § 1681 et seq., Section 504 of the Rehabilitation Act of 1973, 29 U.S.C. § 701 et seq., and NASA's implementing regulations at 14 CFR. §§1250, 1251, and 1253.

Submission of the requested information is voluntary and will not affect an organization's eligibility for an award. However, withholding this information will undermine the usefulness of information provided by others. Any individual who would prefer not to submit some or all the information requested should check the box(es) provided.





1. **Gender** * (choose one):

- ☐ Male
- ☐ Female
- ☒ I prefer not to report my gender

2. **Ethnicity** * (choose one):

- ☐ Hispanic or Latin 
- ☐ Not Hispanic or Latin
- ☒ I prefer not to report my ethnicity

3. **Race** * (select one or more):

- ☐ American Indian or Alaska Native 
- ☐ Asian 
- ☐ Black or African American 
- ☐ Native Hawaiian or Other Pacific Islander 
- ☐ White 
- ☐ Other
- ☒ I prefer not to report my race

4. **Do you have any of the following disabilities/serious health conditions? Consider your answers without the use of medication and aids (except eyeglasses) or the help of another person. (Check all boxes that apply to you.) ***

- ☐ Hearing Impairment
- ☐ Visual Impairment
- ☐ Mobility/Orthopedic Impairment
- ☐ Other
- ☐ None
- ☒ I prefer not to reveal my disabilities/health conditions

5. **Are you currently serving (or have previously served) as PI, PD, Co-PI, or Co-PD on any federally funded project? ***

- ☐ Yes
- ☒ No



Demographic Data Collection - Career stage

What is your highest degree earned? *
(choose one):

<input type="radio"/>	Bachelors					
<input type="radio"/>	Masters					
<input type="radio"/>	Doctorate					
<input type="radio"/>	Other					
<input type="radio"/>	I prefer not to answer					

What is the year you received your highest degree? *

	▼
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Career Classification Sector * (choose one):

<input type="radio"/>	Academia				
<input type="radio"/>	Government				
<input type="radio"/>	For-profit				
<input type="radio"/>	Nonprofit				
<input type="radio"/>	Other				
<input type="radio"/>	I prefer not to answer				

Career Type * (choose one):

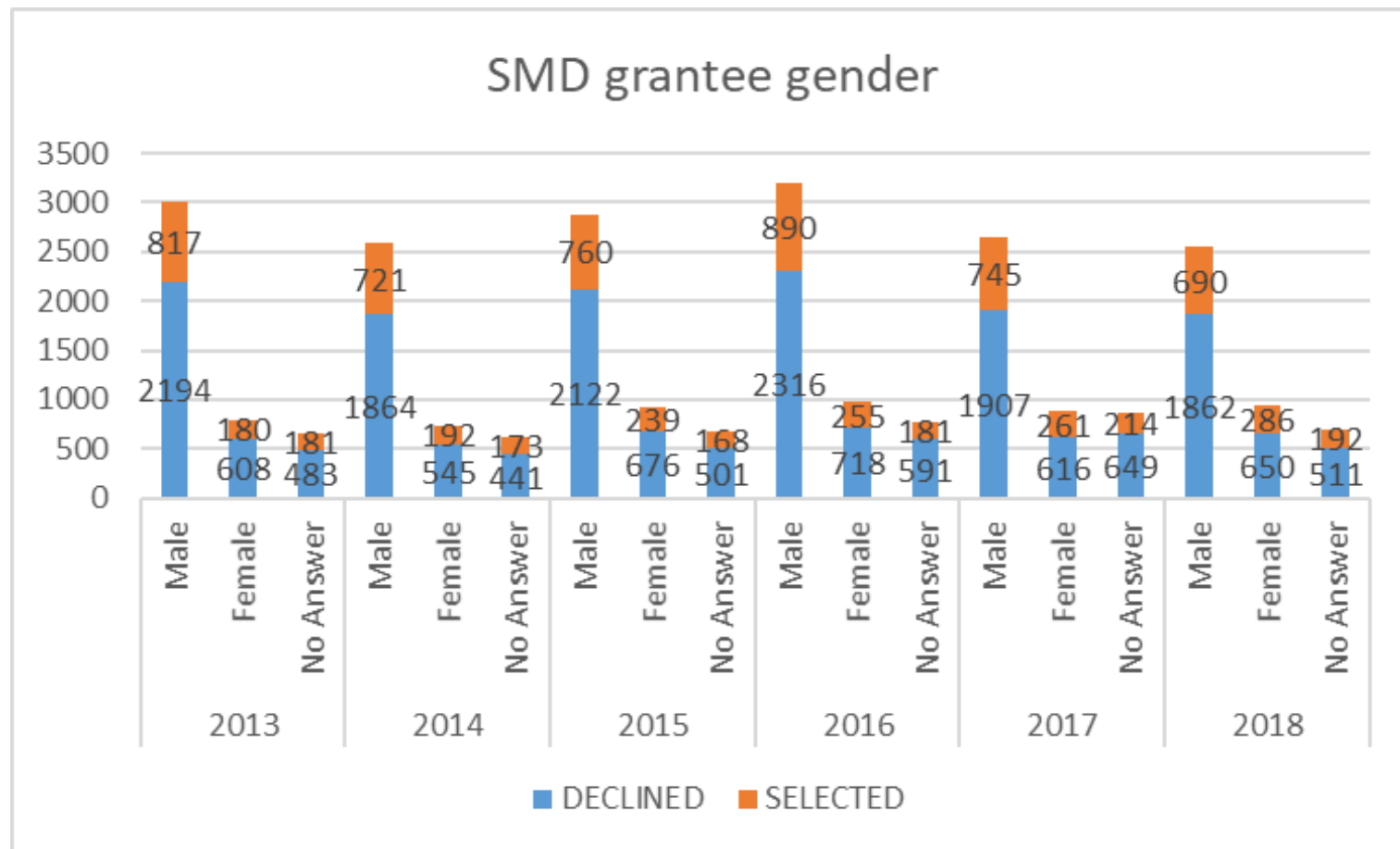
<input type="radio"/>	Primarily Research				
<input type="radio"/>	Primarily Teaching				
<input type="radio"/>	Science-related				
<input type="radio"/>	Engineering/Technology-related				
<input type="radio"/>	Further Training or Education				
<input type="radio"/>	Other				
<input type="radio"/>	I prefer not to answer				

- Who “owns” the data (controls it)? Office of the Chief Scientist
- Types of data: (a) proposers; (b) reviewers; (c) students
 - Student data is trickier (proposal usually submitted by advisor)
 - Anyone who accesses NSPIRES is asked to provide this data – no obligation to do so
 - Data can be broken down by Solicitation, Status: Selected, Declined, Selectable, Year
- Protecting PII is paramount – so never release names, proposal numbers, proposal titles, Disability data is often very difficult to “anonymize” and may not be sharable in some cases.
- Data collection began in February 2016



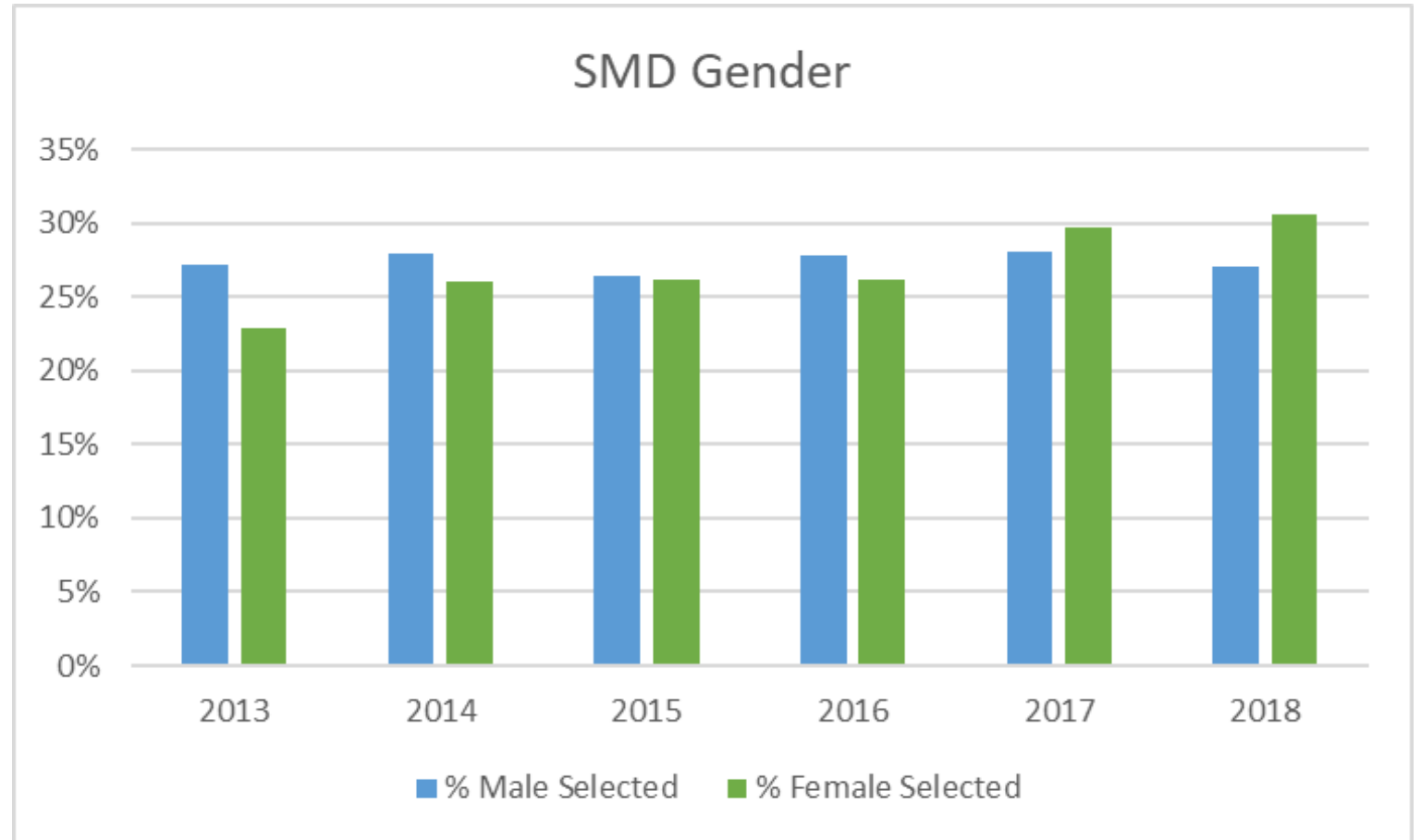
Astrophysics, Earth
Science, Heliophysics, and
Planetary Science

Gender analysis: SMD combined

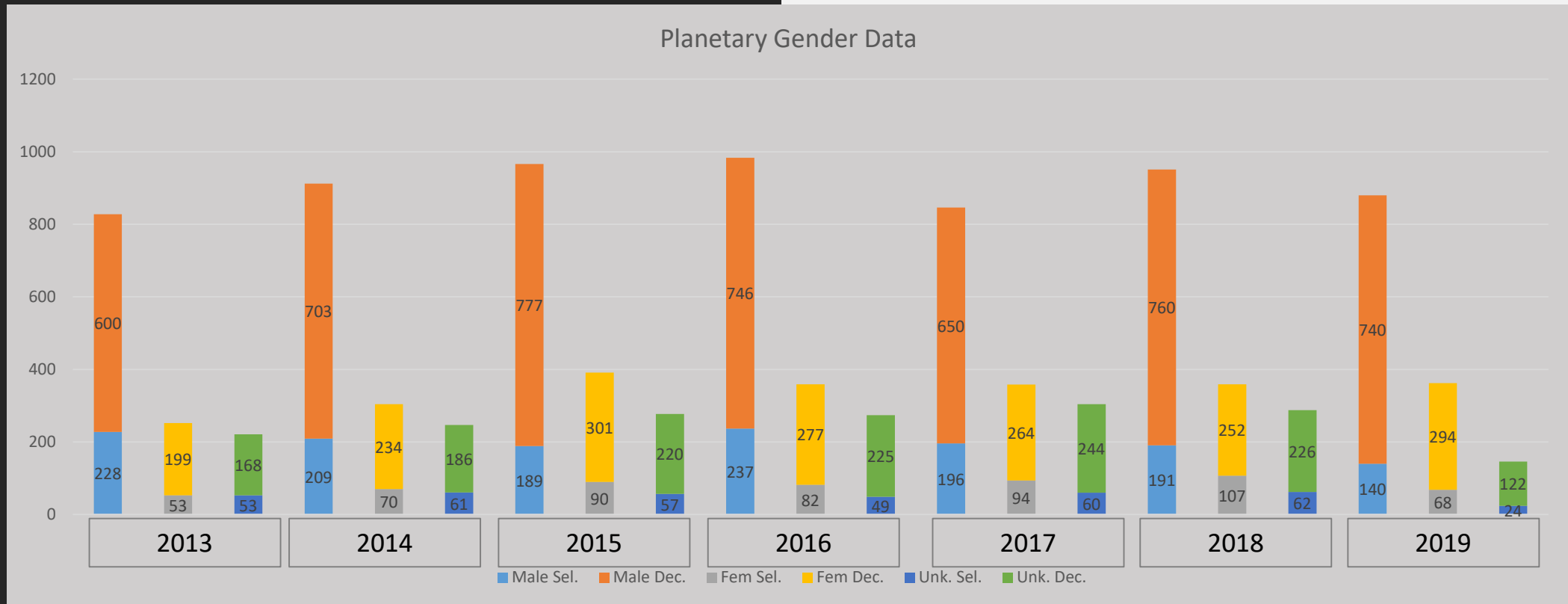


Gender analysis: SMD combined

Astrophysics, Earth
Science, Heliophysics, and
Planetary Science



Planetary Science Gender

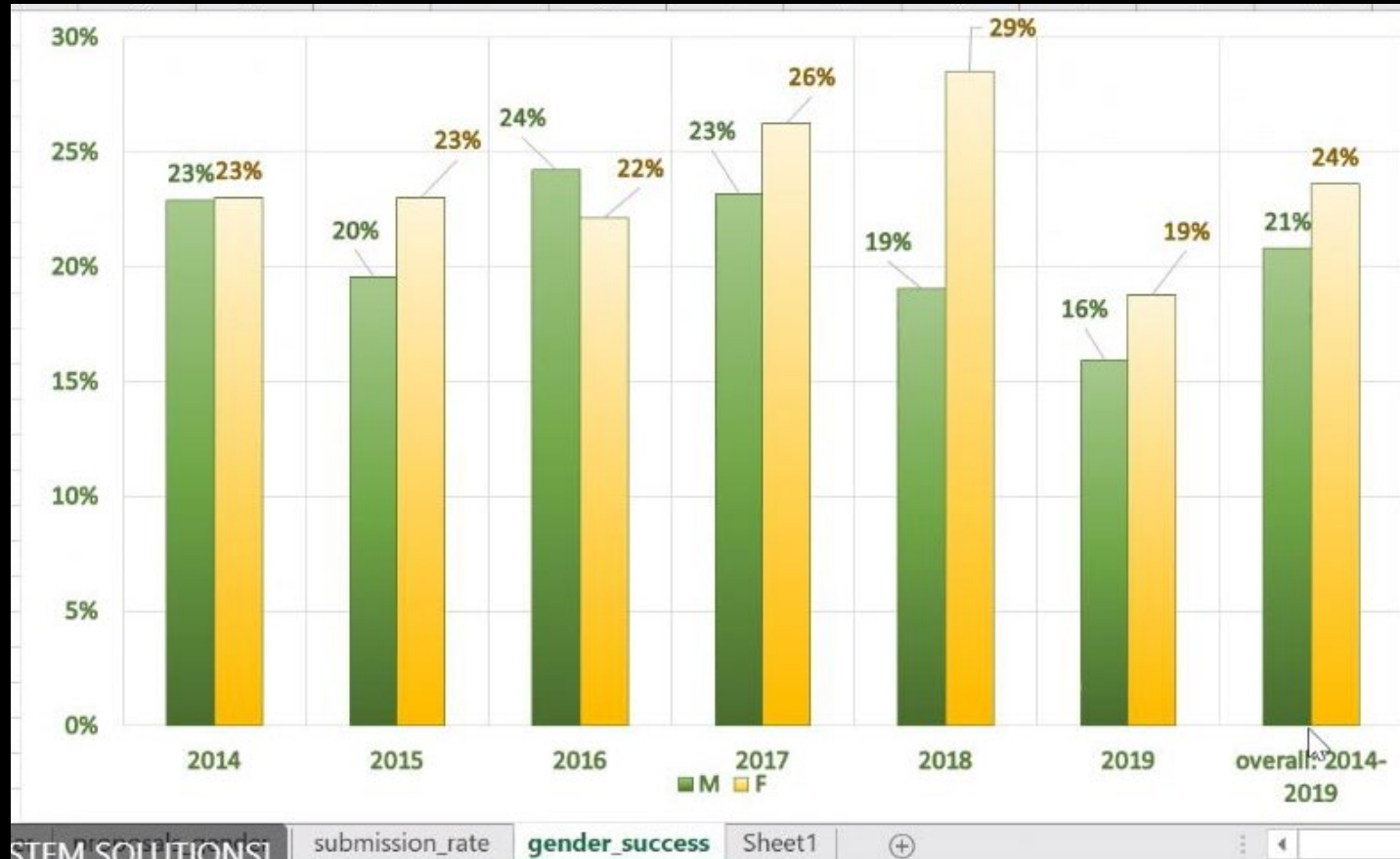


PS Gender Success by year



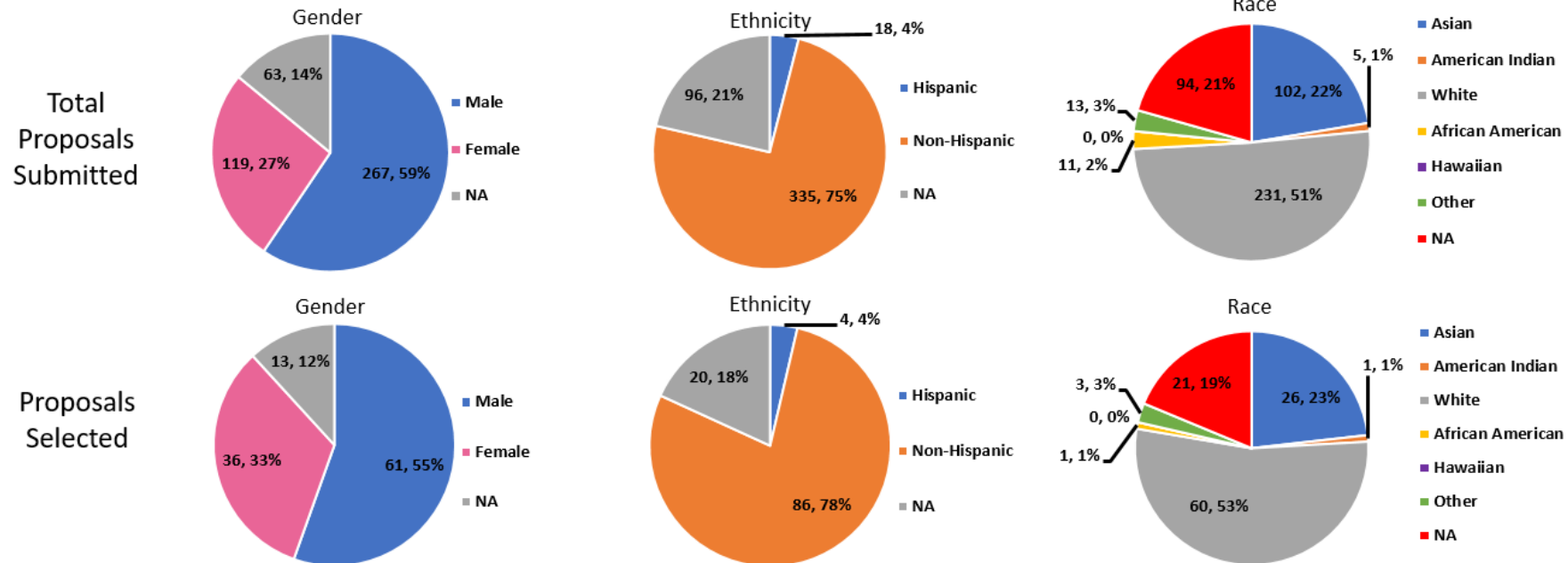
Male

Female



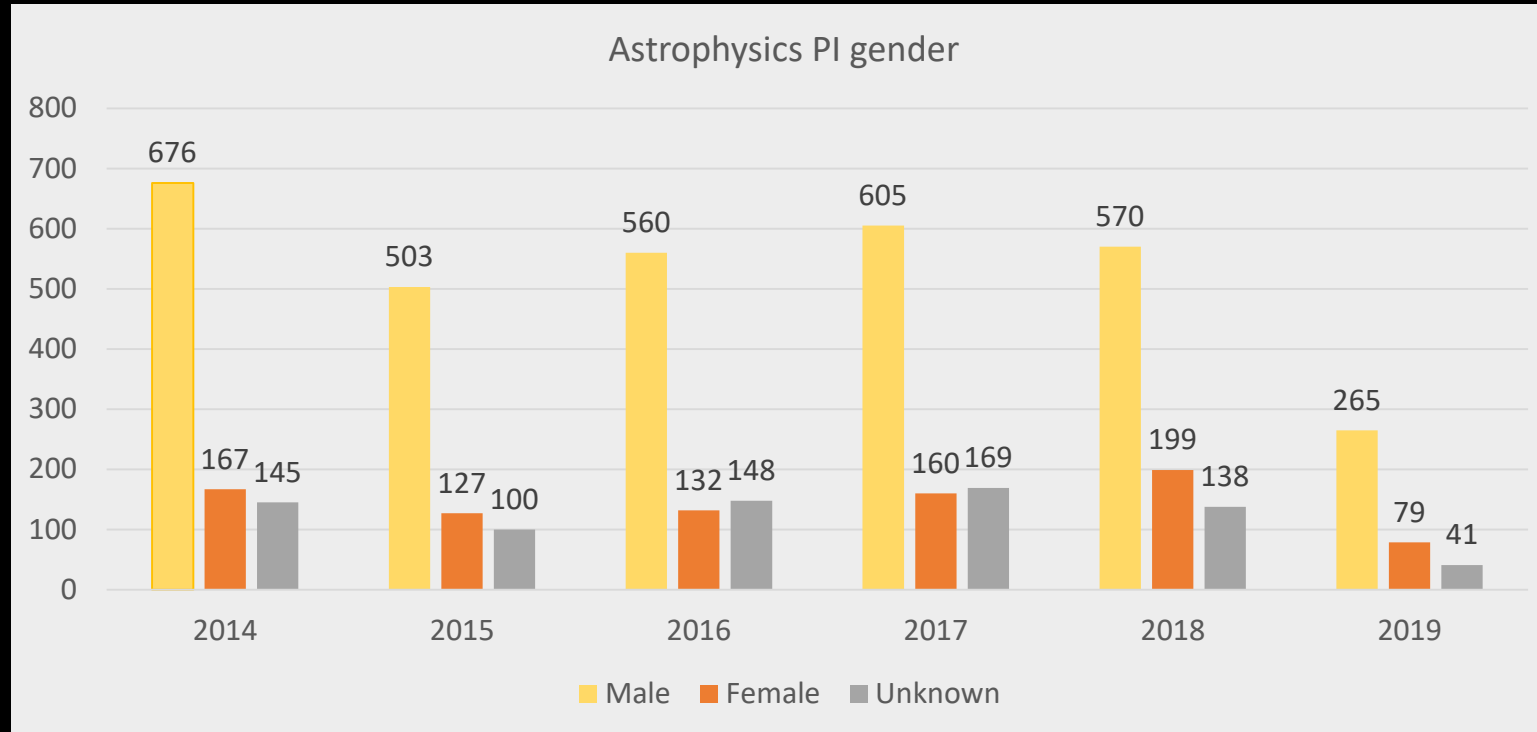
Diversity of BPS Principal Investigators

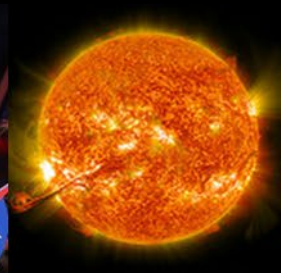
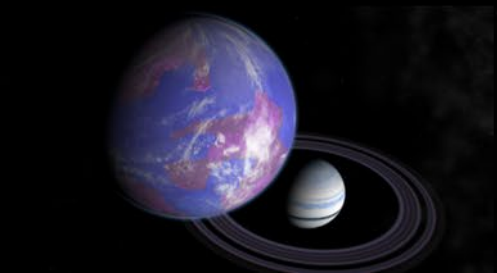
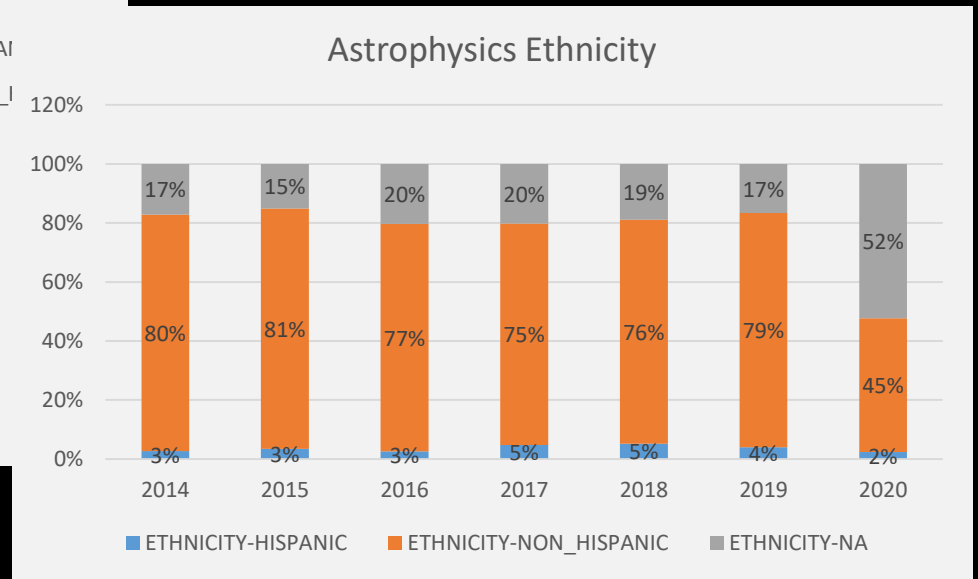
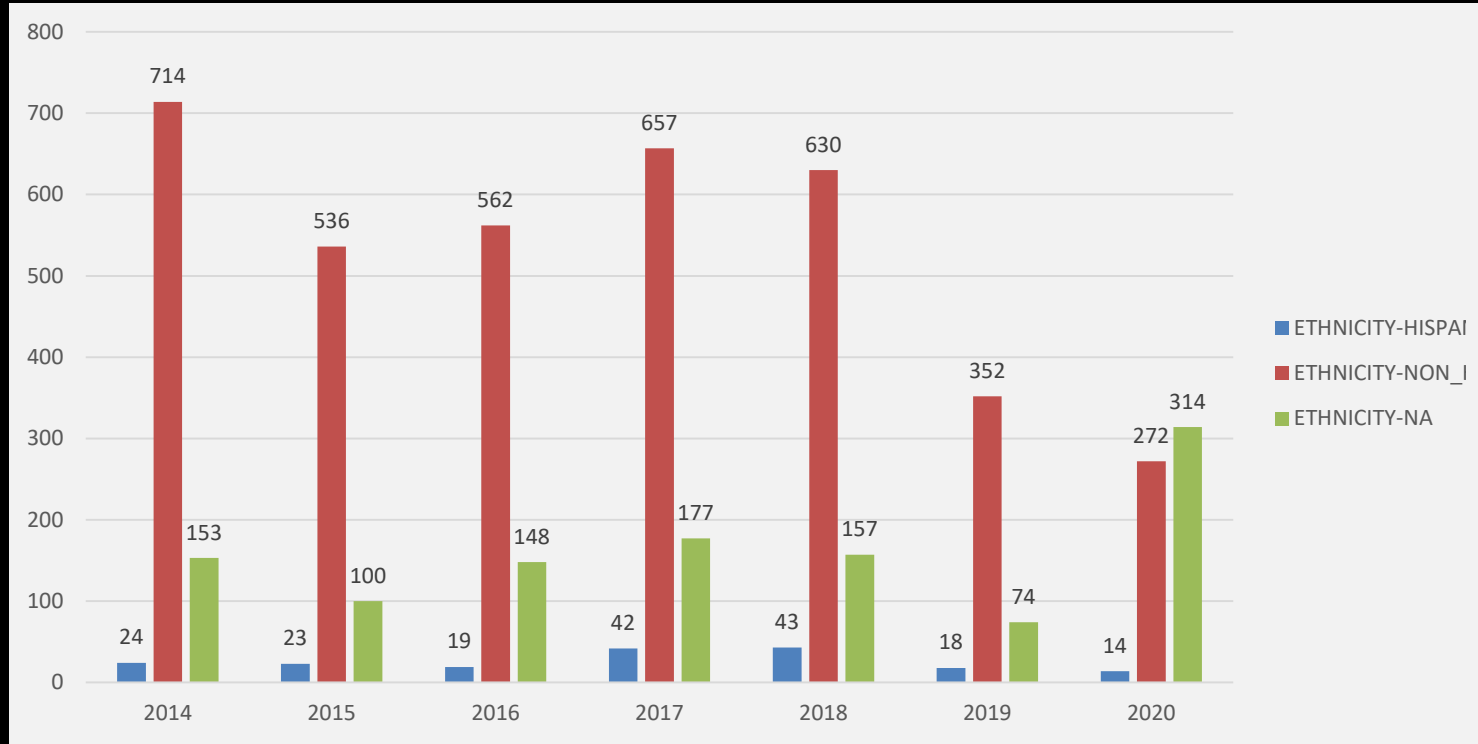
Does data exist on the diversity of PIs? What efforts are being made to increase the diversity of PIs (including geographic and ethnic/racial diversity)?



- BPS participates in SMD's initiatives to address Diversity, Equity, Inclusion and Access (DEIA)

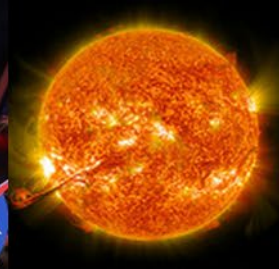






Issues with data

- Timing of data request -
 - ROSES programs do not coincide with calendar year boundaries - data can be missing because submission deadlines fall outside the data range
 - Not all selections may have been made, even for programs that made some selections during the requested time period (rolling deadlines)
- Data structure
 - Questions allowing for multiple selections are counted as multiple individuals, not as one individual with multiple selections
 - Removing PII when it is accidentally included
 - Data gaps (missing data) – seems to be more common for reviewer data
 - Student data vs. advisor data
- NSPIRES maintenance – initial loss of some data (early on)
- Early data are incomplete due to a programming bug: we have reason to believe that the “NA” category might be over-represented due to initial data loss (for 2016 – 2018)



Response Rates – 2019 only

Overall response rates are good –

- Gender – generally around 90%
- For Ethnicity – around 80%
- For Race – around 82%

We saw a “healthy” uptick in responses in 2019 which is encouraging.





Forward work

- Are we asking the questions the “right way” (e.g. binary gender)?
 - We stuck with the 2020 census per OMB guidance
 - Should we be using the ADA categories?
- Analysis / comparison with external research community (university cohort, early career, etc.)
- Provide standard reporting to the NASA and the community

Process for obtaining data

- Process for access to the data –
 - Now it's a somewhat manual process
 - NRESS provides data; OCS does data scrubbing (*) and analysis (canned scripts eventually)
 - OCS has hired a statistician to work the analysis
 - Future: automatically analyze the data for the past year and produce a public report (still in planning stage)
- Current Process:
 - Contact NASA OIC / Associate Administrator
 - Contact: Louis Barbier and/or Maria Santos (OCS)
Louis.M.Barbier@nasa.gov Maria.M.Santos@nasa.gov



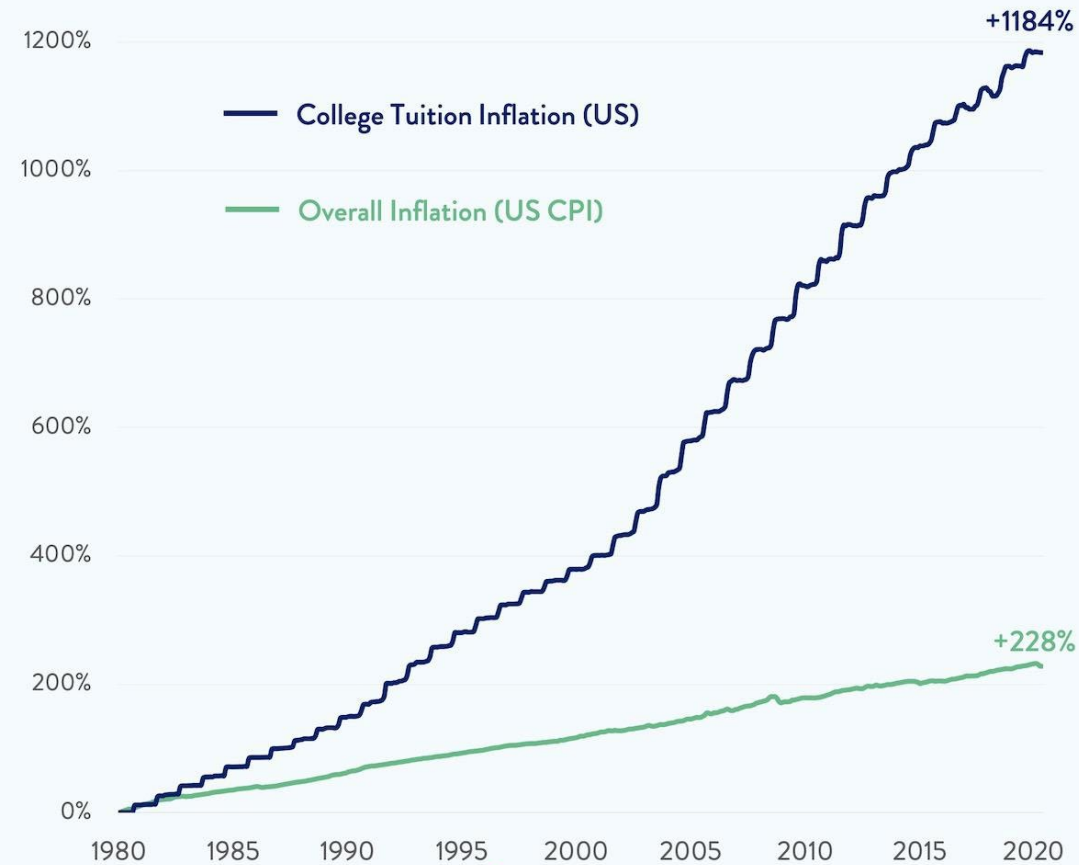
Conclusions

- SMD/PS is doing okay with female representation in proposing PI's and, in most cases, selections match submissions
- SMD/PS as a whole is not receiving proposals from marginalized racial and ethnic groups. Selection rates are generally in line with submission rates, but submission rates are low
- Data can help NASA improve outreach to other groups



College / University costs are rising rapidly

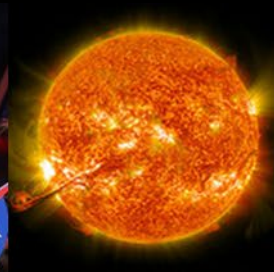
Less Education For Your Buck



Source: US Bureau of Labor Statistics

charttr

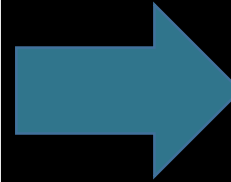
Higher education costs are increasing 5X faster than inflation. This is hurting everyone, but especially the underserved / minority communities.



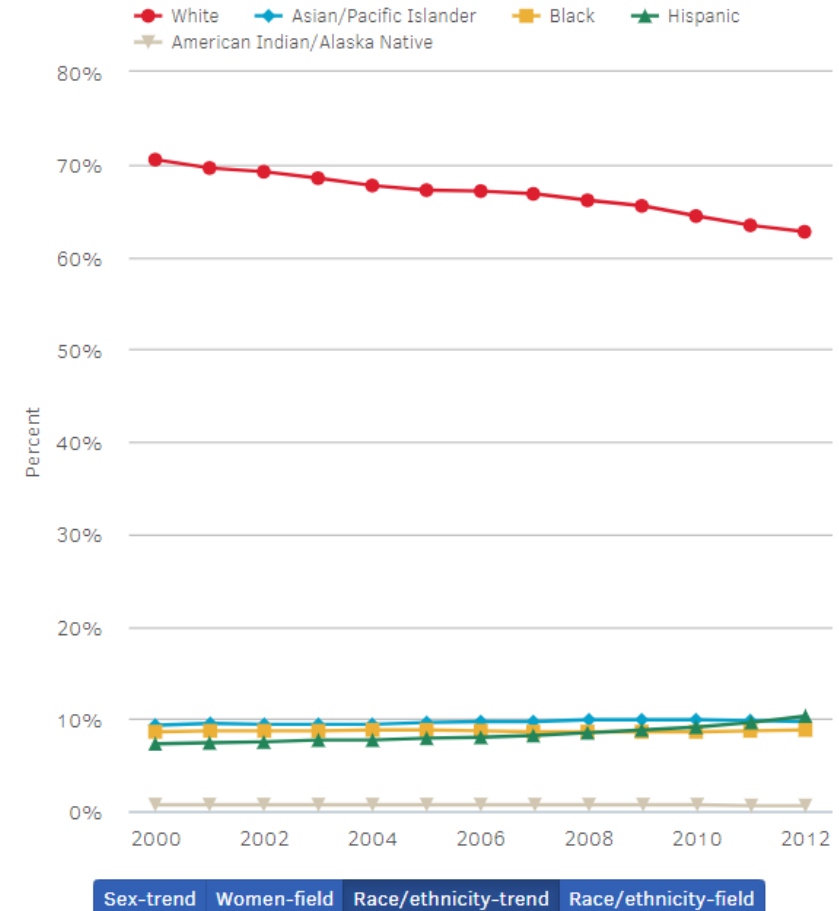
Student racial / ethnic trends



NSF data on student populations for the past 20 years. Only Hispanics have shown an increase, from 7% up to 10%, the other groups remain flat.

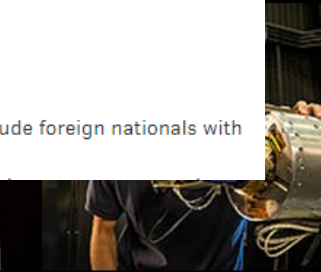
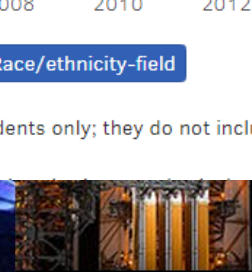
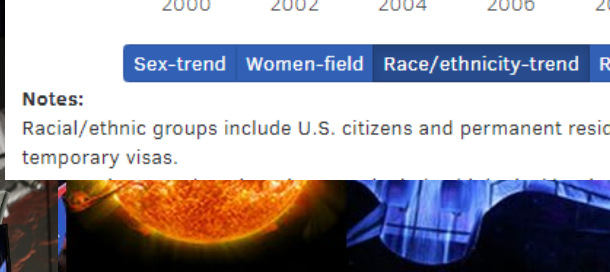


Racial/ethnic distribution of S&E bachelor's degrees: 2000–12
(U.S. citizens and permanent residents)



Notes:

Racial/ethnic groups include U.S. citizens and permanent residents only; they do not include foreign nationals with temporary visas.



Backup charts



WOMEN IN STEM RESEARCH:

Better Data and Information Sharing Could Improve Oversight of Federal Grant-making and Title IX Compliance

GAO-16-14: Published: Dec 3, 2015. Publicly Released: Dec 14, 2015.

[HIGHLIGHTS](#)
[RECOMMENDATIONS](#)
[VIEW REPORT \(PDF, 104 PAGES\)](#)


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What GAO Found

GAO's analysis of Science, Technology, Engineering, and Mathematics (STEM) research grant awards made between fiscal years 2009 and 2013 identified no disparities in success rates between women and men at three agencies selected for review, but data limitations provided limited insight into success rates at three other agencies selected for review. At two of the agencies with data limitations—the Departments of Defense (DOD) and Energy (DOE)—GAO found evidence of disparities in success rates for women and men within certain agency components. **Data limitations at the National Aeronautics and Space Administration (NASA) prevented GAO's analysis of success rates altogether.** This lack of complete, linked electronic proposal and award data at NASA and some components at DOD and DOE impacts their ability to fully evaluate their programs' performance against their stated goals of funding the most qualified scientists, irrespective of gender. Adhering to federal internal control standards regarding data collection of an entire process can ensure that these agencies have the data needed for effective program management and monitoring.

Additional Materials:

 **Highlights Page:**
(PDF, 1 page)

 **Full Report:**
(PDF, 104 pages)

 **Accessible Version:**
(PDF, 124 pages)

Success Rates between Women and Men at Federal STEM Grant-making Agencies

*No evidence of disparities
in success rates*

*Evidence of disparities varied or
insufficient data to analyze success rates*

NIH (HHS)

NSF

NIFA (USDA)

DOD

DOE

NASA

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