# Demographic Data Presentation to: Planetary Science Advisory Committee

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Introduction

- This data is an analysis of the NASA Planetary Science R&A program, focused on Principal Investigators (PIs), but includes some Co-I info
- It excludes competed missions (New Frontiers, Discovery), student programs, Cooperative Agreements
- The data were collected beginning in 2016 (through NSPIRES)
  - Data was "back-casted" to 2014 where possible (hence 2014 and 2015 data may be prone to some errors)
  - 2020 data is incomplete will be updated later in 2021 (Q3)
- Data was compiled according to EEOC/OMB guidelines
  - Complies with NASA EDEO and Human Capital methodology
- This is an on-going analysis, so by no means a finished product

Gender Participation*: 2014 - 2020
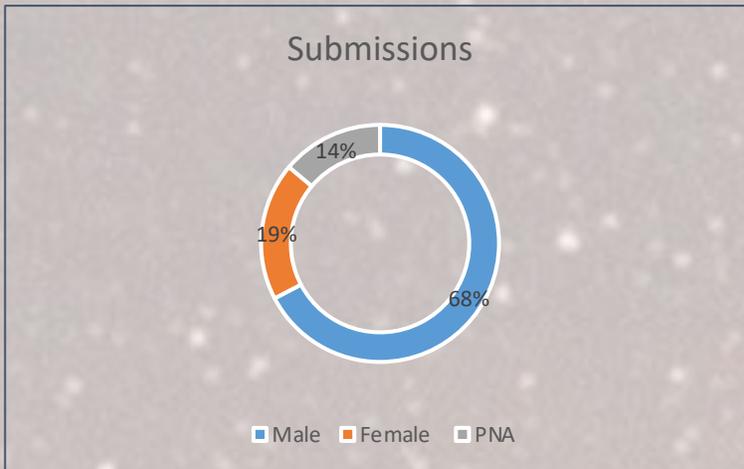
Heliophysics
N = 11,859
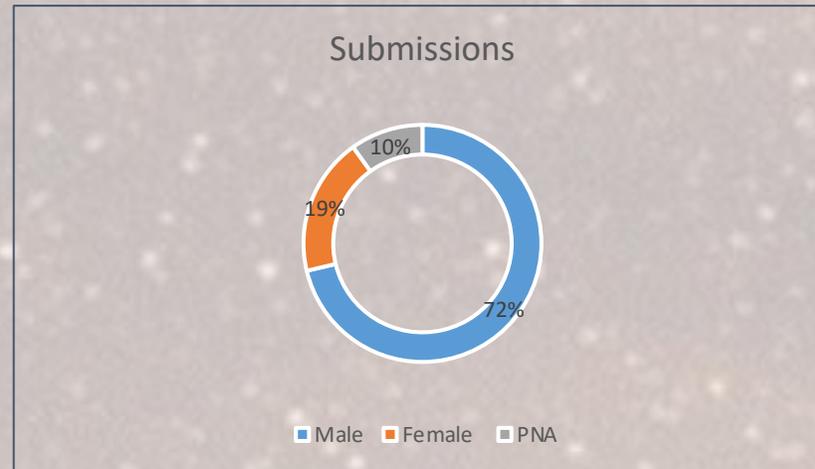
Astrophysics
N = 11,198
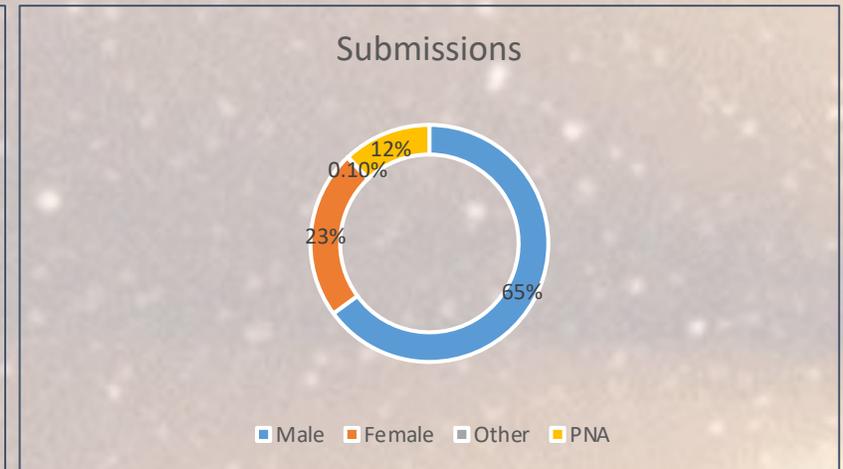
Planetary Science
N = 31,172

*This data includes PIs and Co-Is

Planetary Science Division: PIs Only

Summary Gender

BASIC NUMBERS FOR GENDER: 2014-2020				
	M (%)	F (%)	PNA (%)	totals
selections	61%	27%	12%	2101
submissions	63%	25%	13%	10074
selections/submissions	20%	23%	20%	

*PNA = Prefers Not to Answer

Planetary Science Division: PIs Only – Success Rates by Gender
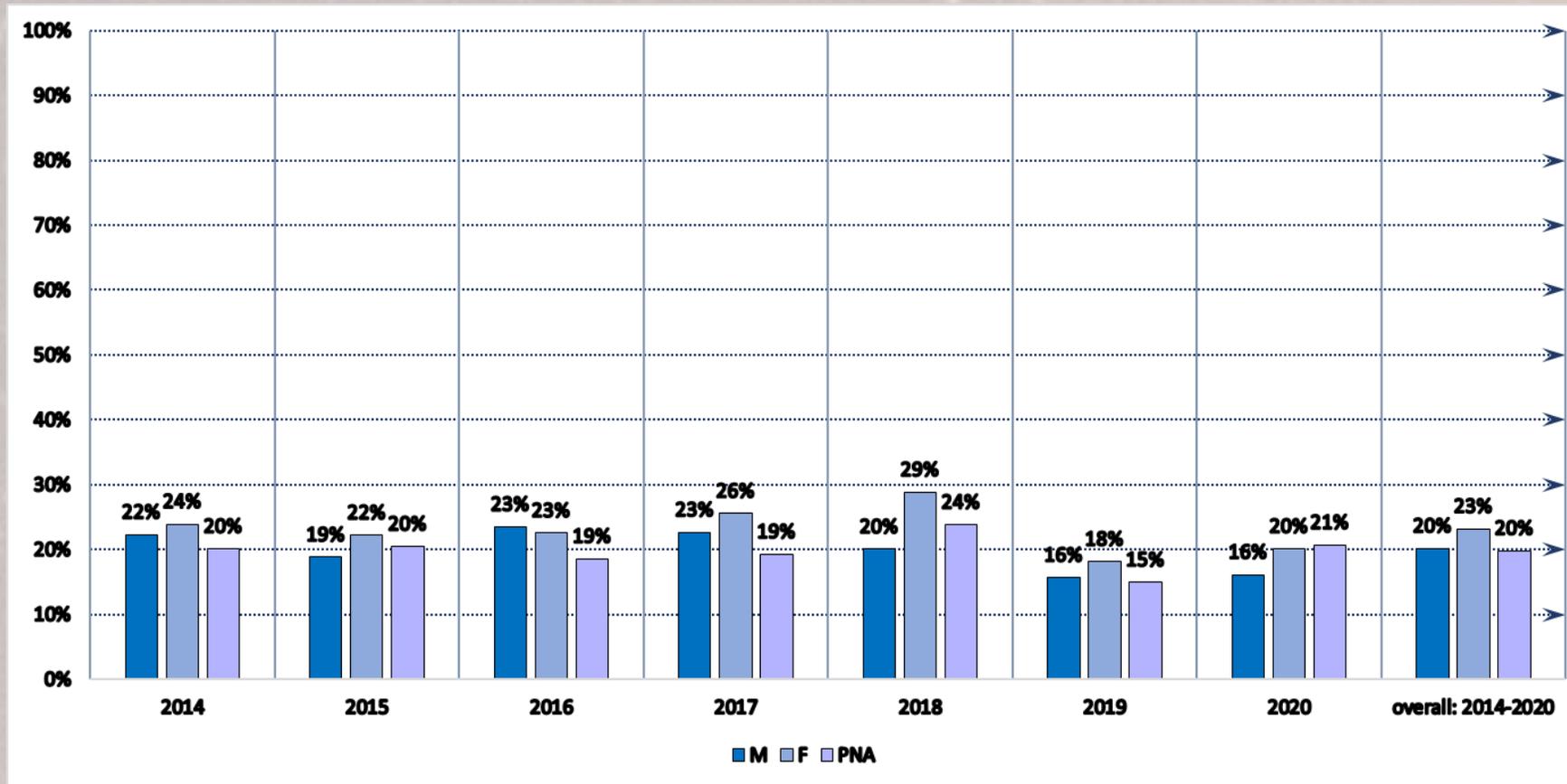
Race/National Origin (RNO) Participation

Submissions

0.4% 4.5%
9.9% 1.3%
18.0%
66.0%

■ Asian ■ Black/African American ■ Hispanic/Latino ■ Other ■ PNA ■ White

Heliophysics
N = 11,859
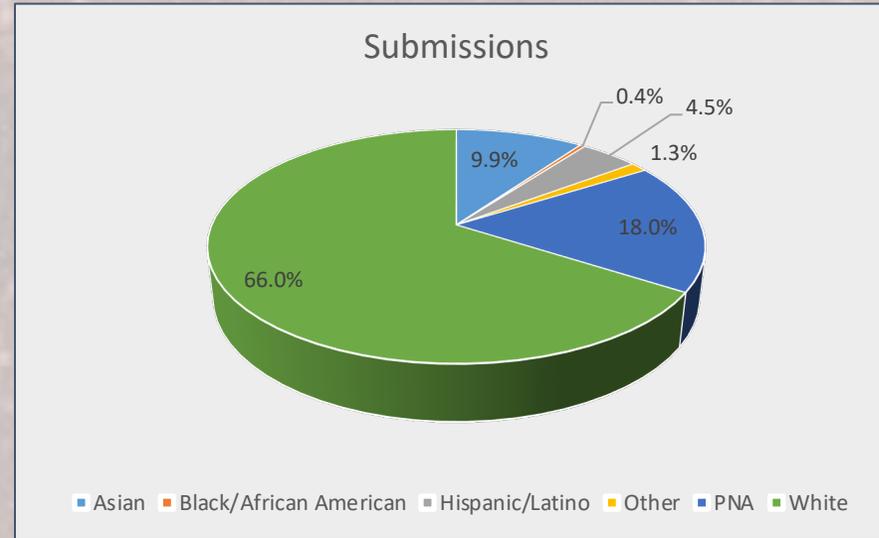
Planetary Science
N = 31,172

Astrophysics
N = 11,198

Submissions

0.6%
16.3% 2.5%
0.8%
22.4%
57.5%

■ Asian ■ Black/African American ■ Hispanic/Latino ■ Other ■ PNA ■ White

Submissions

0.4% 3.3%
8.9% 1.1%
20.6%
65.6%

■ Asian ■ Black/African American ■ Hispanic/Latino ■ Other ■ PNA ■ White
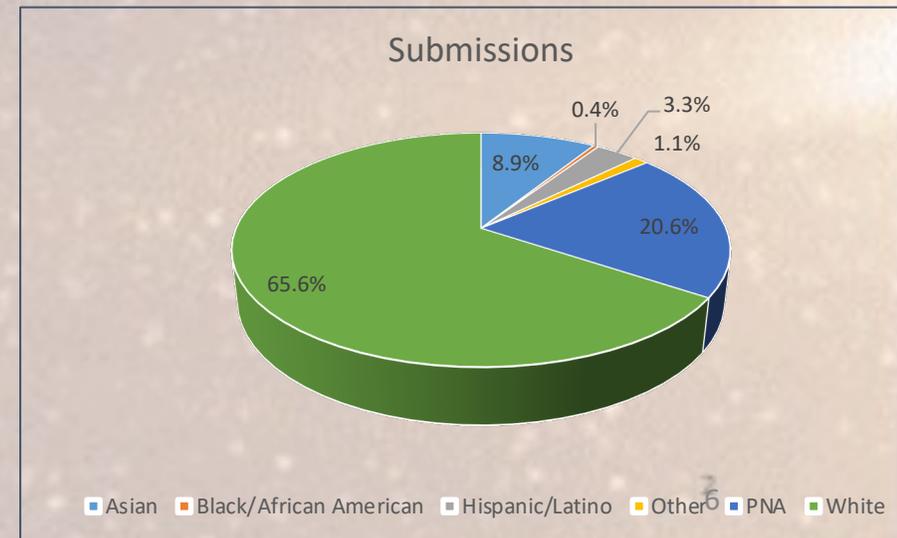
Planetary Science Division: PIs Only – Success Rates by RNO

	2014	2015	2016	2017	2018	2019	2020	All years
Asian	21%	14%	24%	25%	20%	13%	15%	19%
Prefer not to answer	20%	18%	20%	20%	20%	16%	18%	19%
White	24%	22%	24%	24%	24%	17%	18%	22%
Other[1]	15%	16%	11%	20%	19%	13%	14%	15%

[1]Note: due to small numbers, the following categories are combined in "Other": American Indian or Alaska Native, Black or African American, Hispanic, Multi-racial, Native Hawaiian or Other Pacific Islander, and Other.

NASA Office of the Chief Scientist
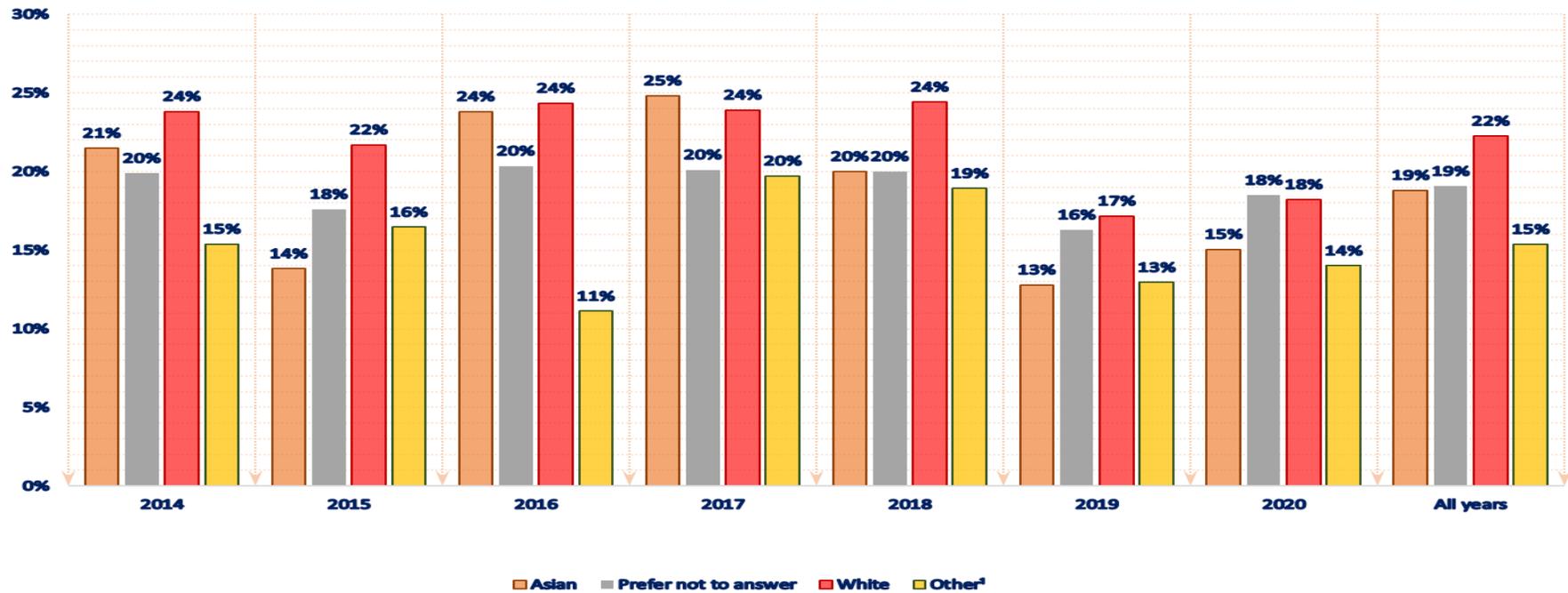
Planetary Science Division: PIs Only

Number of submissions by RNO group and year, 2014-2020

year	Asian	Other¹	Prefer not to answer	White	Total
2014	135	65	347	953	1500
2015	152	79	358	1046	1635
2016	147	90	339	1027	1603
2017	137	71	358	920	1486
2018	185	74	360	987	1606
2019	172	85	307	932	1496
2020	93	50	119	494	756
Grand Total	1021	514	2188	6359	10082

¹The following categories are included in "Other": American Indian or Alaska Native, Black or African American, Hispanic, Multi-racial, Native Hawaiian or Other Pacific Islander, and Other.

PI and Co-I data

RNO Success

Planetary

NASA Office of the Chief Scientist
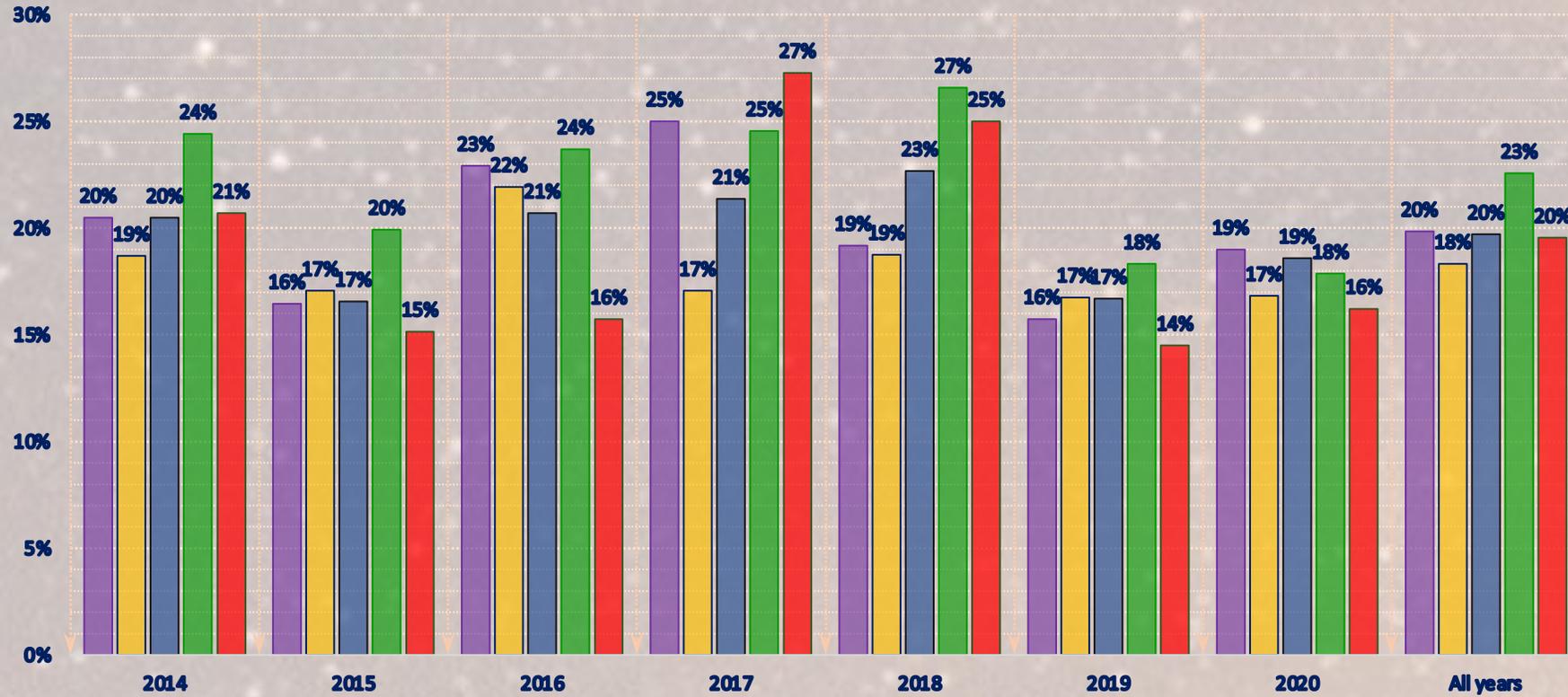
RNO and gender combined

Planetary
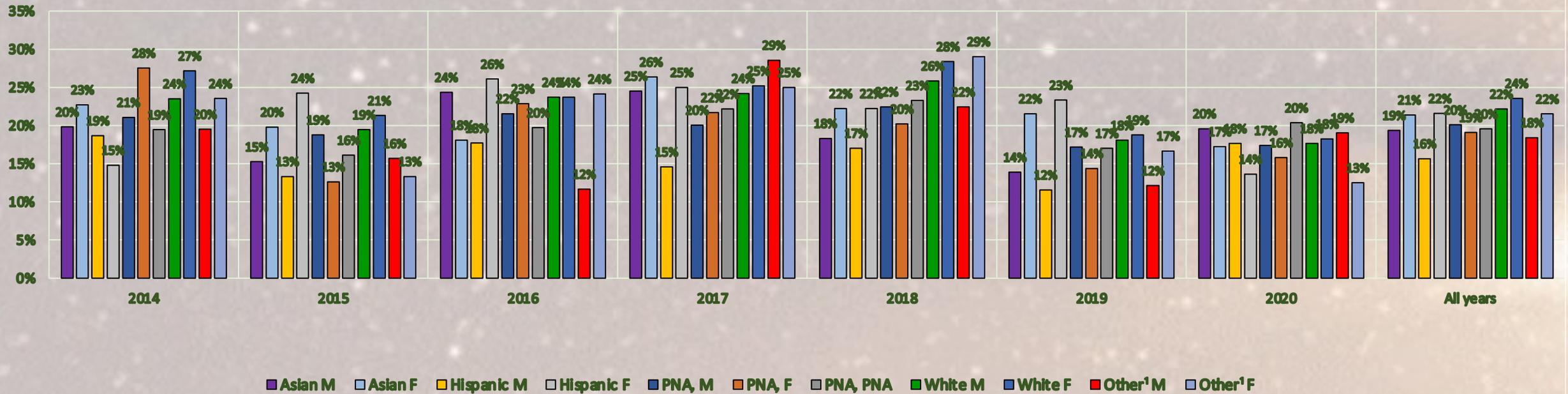
Declared Disability Success by division

Planetary
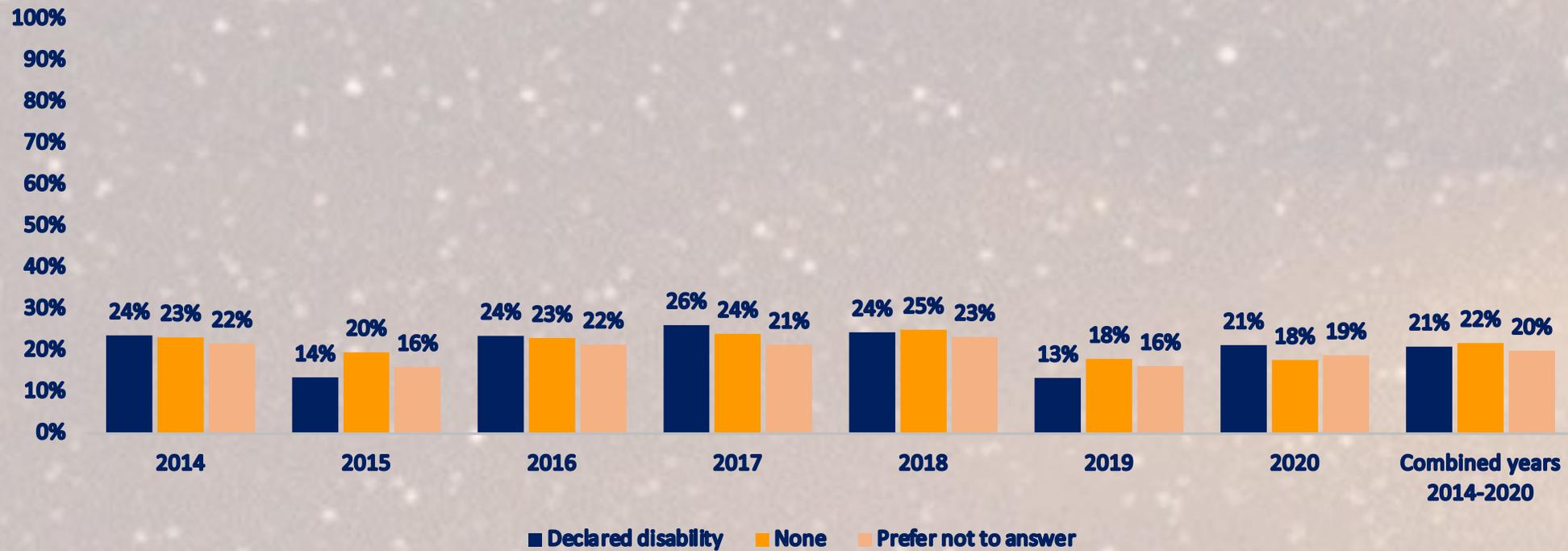
Relevant Civilian Labor Force (RCLF) data

Under-Represented Minorities Among Astronomy Faculty, 2012

Degrees Awarded by Department	African American %	Hispanic American %
Astronomy only	1	2
Physics	2	3

Source: AIP Statistical Research Center (www.aip.org/statistics).

No RCLF data for Heliophysics yet.

Race and Ethnicity for Members of Planetary Science Community*		
	All survey respondents** (n=2,367)	Members of Division for Planetary Sciences*** (n=895)
White	83%	87%
Asian or Asian American	13%	10%
Hispanic or Latinx	5%	5%
American Indian or Alaska Native	1%	*
Black or African American	1%	1%
Native Hawaiian or Other Pacific Islander	<1%	*
Another Race/Ethnicity	4%	2%

*SOURCE: American Astronomical Society's Division for Planetary Sciences 2020 workforce survey.

** Percent of students unknown
*** 14% of this group are students

Percentage Hispanic, African American, Pacific Islander and/or Native American among Faculty, Researchers, Post Docs

	Faculty	Research Scientists	Post Doc
2011	1.5	3.4	4.4
2018	5.8	1.3	14.7

*SOURCE: Survey of US Academic Departments that Include Planetary Science. 2018 data provided by Fran Bagenal, University of Colorado.

Summary

- Data show no consistent bias in gender, RNO, or handicap wrt "success"

- Participation – for most minorities is low in all SMD divisions, inc. Planetary
  - Pacific Islander/Hawaiian, American Indian/Alaska native, Black/African American, Hispanic/Latinx – however these communities are also poorly represented in the RCLF

- We still have too large a "PNA" response – we need to increase the willingness to answer the demographic questions
  - Revising questions should help

- Those with reported disabilities had a slightly lower success rate the past two years.

- Currently working on RCLF for Heliophysics and Earth science

Backup data

NASA Office of the Chief Scientist

Planetary Science Division: PIs Only

Gender distribution for Submissions - 2014 to 2020

year	total	M (%)	F (%)	PNA (%)
2014	1497	64%	22%	15%
2015	1632	62%	25%	13%
2016	1602	65%	23%	12%
2017	1486	60%	26%	15%
2018	1605	62%	24%	13%
2019	1496	63%	27%	10%
2020	756	64%	28%	8%
All combined	10074	63%	25%	13%

Gender distribution for Selections - 2014 to 2020

year	total	M (%)	F (%)	PNA (%)
2014	334	64%	23%	13%
2015	324	59%	27%	14%
2016	363	67%	23%	10%
2017	340	59%	29%	12%
2018	364	55%	31%	14%
2019	243	60%	30%	9%
2020	133	59%	32%	9%
All combined	2101	61%	27%	12%

Planetary Science Division: PIs Only

	RACE NATIONAL ORIGIN (RNO): 2014-2020								
	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Multi-racial	Other[1]	Prefer not to answer	White	ALL
SELECTIONS/SUBMISSIONS	17%	19%	13%	15%	17%	19%	19%	22%	21%
TOTAL SUBMISSIONS (N)	24	1021	46	350	24	70	2188	6359	10082

[1] Due to small numbers, Native Hawaiian or Other Pacific Islander and Other race were combined.

	RACE NATIONAL ORIGIN (RNO): 2014-2020								
	American Indian or Alaska Native (%)	Asian (%)	Black or African American (%)	Hispanic or Latino (%)	Multi-racial (%)	Native Hawaiian or Other Pacific Islander (%)	Other (%)	Prefer not to answer (%)	White (%)	TOTAL
SELECTIONS	0.2%	9.1%	0.3%	2.5%	0.2%	0.0%	0.6%	19.8%	67.3%	2103
SUBMISSIONS	0.2%	10.1%	0.5%	3.5%	0.2%	0.0%	0.7%	21.7%	63.1%	10082

*Note: The ethnicity and race variables were combined based on OMB and EEOC guidelines.

Planetary Science Division: PIs Only

RNO distribution for Submissions - 2014 to 2020										
year	Total	American Indian or Alaska Native (%)	Asian (%)	Black or African American (%)	Hispanic or Latino (%)	Multi-racial (%)	Native Hawaiian or Other Pacific Islander (%)	Other (%)	Prefer not to answer (%)	White (%)
2014	1500	0.5%	9.0%	0.4%	2.7%	0.3%	0.0%	0.4%	23.1%	63.5%
2015	1635	0.1%	9.3%	0.5%	3.5%	0.1%	0.1%	0.6%	21.9%	64.0%
2016	1603	0.3%	9.2%	0.4%	3.6%	0.4%	0.1%	0.9%	21.1%	64.1%
2017	1486	0.2%	9.2%	0.6%	3.3%	0.1%	0.1%	0.5%	24.1%	61.9%
2018	1606	0.1%	11.5%	0.3%	3.2%	0.3%	0.0%	0.7%	22.4%	61.5%
2019	1496	0.2%	11.5%	0.5%	3.9%	0.2%	0.0%	0.8%	20.5%	62.3%
2020	756	0.4%	12.3%	0.4%	4.8%	0.4%	0.0%	0.7%	15.7%	65.3%
All Years Combined	10082	0.2%	10.1%	0.5%	3.5%	0.2%	0.0%	0.7%	21.7%	63.1%

RNO distribution for Selections - 2014 to 2020										
year	Total	American Indian or Alaska Native (%)	Asian (%)	Black or African American (%)	Hispanic or Latino (%)	Multi-racial (%)	Native Hawaiian or Other Pacific Islander (%)	Other (%)	Prefer not to answer (%)	White (%)
2014	335	0.6%	8.7%	0.0%	1.5%	0.3%	0.0%	0.6%	20.6%	67.8%
2015	324	0.3%	6.5%	0.3%	2.8%	0.0%	0.0%	0.6%	19.4%	70.1%
2016	364	0.0%	9.6%	0.3%	2.5%	0.0%	0.0%	0.0%	19.0%	68.7%
2017	340	0.3%	10.0%	0.6%	2.6%	0.0%	0.3%	0.3%	21.2%	64.7%
2018	364	0.0%	10.2%	0.5%	1.9%	0.8%	0.0%	0.5%	19.8%	66.2%
2019	243	0.0%	9.1%	0.0%	3.3%	0.0%	0.0%	1.2%	20.6%	65.8%
2020	133	0.0%	10.5%	0.0%	3.8%	0.0%	0.0%	1.5%	16.5%	67.7%
All Years Combined	2103	0.2%	9.1%	0.3%	2.5%	0.2%	0.0%	0.6%	19.8%	67.3%