Planetary Science
Academic Department Surveys
2011 & 2018

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With special thanks to Lucia Illari,
George Washington University
Planetary Science:
54 Departments >1 PS faculty
250 faculty
100 Undergraduates / year
PhDs: 50-65 / year
   40-45% women
   30% non-US
   8% minority

For comparison........

Astronomy (AIP):
93 Departments (40 Astro, 53 Astro+)
550 faculty
666 Undergrad degrees / year
159 PhDs / year
https://www.aip.org/statistics/reports/roster-astronomy-2019

• Planetary Science: Very interdisciplinary, dispersed, poorly defined
• Astrobiology & Exoplanets not included
• Only a dozen universities dominate field
• 7% growth in faculty over 7 years
• Fraction of women faculty increasing 14%->20%
• Untenured women -> 30%

Need to find way to systematically gather department data
(community agreement on scope of planetary science, mechanism for data collection, analysis, posting, etc)
Surveys of Workforce & University Departments that Include Planetary Science - 2011 & 2018 Reports

Quick history:

• It's 2010. About to start Decadal Survey of Planetary Science. But we – the profession – had little knowledge about how many planetary scientists we have in the field – or where/how they are trained.

• A group works with the American Institute of Physics to do a workforce survey

• Fran Bagenal contacts ~50 academic departments that have some planetary connection

• 2011 Results:  

• 2017. Time to repeat surveys. Fran contacts departments. NASA stalls on funding workforce survey. And stalls. And stalls. Finally DPS picks up the ball and does the 2020 workforce survey.

• 2021. Next Decadal includes a State of the Profession Working Group. They not only want to know how the workforce has changed over the past decade – but also what how the departments might have changed

• We compare the 2010/11 departmental survey with the 2017/18 numbers

• Some key departments are missing....

• We chased up – but less complete than 2011
2011 & 2018 Departmental Surveys

- Sent to American university depts thought to have PS faculty and/or offer PS Bachelors/Masters/PhD
- Emailed by Fran Bagenal to dept chairs
- Only U. of Arizona has a dept called just Planetary Science
- Planetary science faculty in multiple depts at same university

2011 Survey:
- 40 universities, 54 departments
- words appearing in department names:

2018 Survey:
- 29 universities, 36 departments
- words appearing in department names:
2011 Department Survey

Less than 1 dozen universities produce nearly all planetary PhDs
2011 Department Survey Results

Only a handful have upper division planetary science classes

* took 2 or more upper division courses in planetary science
2011 & 2018 Departmental Surveys:

Tenured+Tenure-track Faculty in PS in F08-S10 and F16-S18, total values

- **2011**: 201
- **2018**: 199.5
- **2018 if all responded** (assuming no change for non-responding departments): 234

- **Men**: 163.5
- **Women**: 33, 48, 51
- **Total**: 211.5, 250.5

234 -> 250 = 7% growth

14% 23% 20%

Non-tenured 24%, 35%, 30% suggests increase in women recruited
2011 & 2018 Departmental Surveys: Faculty

Top 10 Universities For Faculty Women

- 2011: 12%
- 2018: 20% respondents only
- 2018: 18% if non-respondents unchanged
2011 & 2018 Departmental Surveys: PhDs

PhDs in Planetary Science Awarded in F08-S10 and F16-S18, total values

- 2011
- 2018
- 2018 if all responded*

* Assuming no change for non-responding departments

Counts:
- Men: 78 (2011), 60 (2018), 73 (2018 if all responded)

- 40% 41% 45%
- 2018
  - 30% non-US
  - 7% race/ethnic minority
# Top 10 Universities For PhDs

## Women

- **2011**: 36%
- **2018**: 38% respondents only
- **2018**: 39% if non-respondents unchanged

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## Graph: PhDs in Planetary Science Awarded in F08-S10 and F16-S18

**Top 10, by gender**

<table>
<thead>
<tr>
<th>University</th>
<th>Women 2011</th>
<th>Women 2018</th>
<th>Men 2011</th>
<th>Men 2018</th>
</tr>
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<td>Arizona State University</td>
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<td>6</td>
<td>4</td>
<td>5</td>
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<td>University of Arizona</td>
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<td>2</td>
<td>4</td>
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<td>CalTech</td>
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<td>5</td>
<td>4</td>
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<tr>
<td>UC Santa Cruz - Total</td>
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<td>6</td>
<td>3</td>
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<tr>
<td>Brown University</td>
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<tr>
<td>University of Central Florida</td>
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<td>3</td>
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</tbody>
</table>
2011 & 2018 Departmental Surveys: Undergrad

Bachelor Degrees with concentration in Planetary Science awarded in F08-S10 and F16-S18, total values

* Assuming no change for non-responding departments
2011 & 2018 Departmental Surveys: Undergrad

Top 10 Universities For Undergrads Women
2011 34%
2018 30% respondents only
2018 29% if gender percentage unchanged

*no gender provided*