• Demographics of Planetary Sciences
  - What are the implications for future planetary scientists?
  - What are implications for academia?
    NASA labs? Industry?

Reports, summaries for both studies
Demographics of Planetary Sciences

Purpose: To understand the broad, diverse community of planetary scientists in the US.

• PART A: Survey of Departments

• PART B: Survey of active scientists (members of AGU, DPS, LPSC attendees)
Tenured + tenure-track faculty in planetary sciences in the US

Men  Women
• Men tend to apply for more positions than women do
• Women tend to be more likely to have a 2-body problem
Bachelor Degrees with a concentration in Planetary Science awarded in AY 2008/9 & 2009/10

Men  Women
PhDs in Planetary Science awarded in AY 2008/9 & 2009/10

- Men
- Women
• 229 planetary science faculty

• Say they are on the faculty for 30 years, then replacement is <8 per year

• 131 PhDs per year

• If this is somewhat exaggerated / wrongly classified by the big depts (ASU, UCLA, CU) then it’s more like 75/year

• This would mean 1 in 10 get a faculty position.  
• Probably more like 1 in 8.

• 206 Bachelors degrees per year – again, could be exaggerated by some depts.
Part B: 2011 Survey of 4,252 on mailing lists of potential planetary scientists associated with the LPSC, AGU and DPS

2,622 (62%) respondents

<table>
<thead>
<tr>
<th></th>
<th>LPSC</th>
<th>AGU</th>
<th>DPS</th>
<th>All Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPSC</td>
<td>1280</td>
<td>345</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>AGU</td>
<td>264</td>
<td></td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>DPS</td>
<td></td>
<td></td>
<td>358</td>
<td></td>
</tr>
<tr>
<td>All Three</td>
<td></td>
<td></td>
<td></td>
<td>161</td>
</tr>
</tbody>
</table>

The numbers in the highlighted cells on the diagonal belonged to that group only, except the bottom right cell that shows 161 respondents belong to all 3 groups.

- The off-diagonal numbers refer to the number of respondents belonging to two groups
- A total of 1,876 were associated with the LPSC; 894 were members of AGU; and, 733 belonged to DPS.

**Of the 2,622 respondents, 1,518 (58%) have PhDs and live in the US – the population we targeted for this survey.**
<table>
<thead>
<tr>
<th>Age</th>
<th>Men Respondents</th>
<th>Women Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower quartile</td>
<td>38</td>
<td>33</td>
</tr>
<tr>
<td>Median</td>
<td>48</td>
<td>38</td>
</tr>
<tr>
<td>Upper quartile</td>
<td>58</td>
<td>48</td>
</tr>
</tbody>
</table>

Female population is a little younger.
Employment Sector by Self-Identification & Job Description

Note: The University sector includes university affiliated observatories and research institutes. FFR&DCs include JPL, APL, and LPI. Non-profit includes SwRI, SSI, and PSI.
Post-Doc Experience by Self-Identification & Job Description

- **Planetary Scientists in PS**
  - Did a Post-doc: 66%
  - Currently a Post-doc: 20%
  - Never did Post-doc: 14%

- **Planetary Scientists in S&E**
  - Did a Post-doc: 61%
  - Currently a Post-doc: 10%
  - Never did Post-doc: 29%

- **Non-Planetary Scientists in S&E**
  - Did a Post-doc: 58%
  - Currently a Post-doc: 12%
  - Never did Post-doc: 30%
Field of Doctorate by Self-Identification & Job Description

- Planetary Scientists in PS
- Planetary Scientists in S&E
- Non-Planetary Scientists in S&E

Categories:
- Other
- Engineering
- Earth Science
- Chemistry
- Physics
- Geology & Geophysics
- Planetary Science
Respondents Ratings of How Well their Doctoral Program Prepared Them

- Establish contacts in plan. sci.
- Proposal writing skills
- Managing projects
- Lab equipment skills
- Managing people
- Non-academic career info.
- Public outreach
- NASA mission

Legend:
- Not Covered
- Weak
- Fair
- Good
- Very Good
Areas in Which My Career Could Have Benefitted from More Training in Doctoral Program

- Subject matter knowledge
- Sophisticated problem solving
- Advanced quantitative skills
- Oral communication skills
- Collaboration / team skills
- Programming skills
- Research integrity / ethics
- Teaching skills
- Establish contacts in plan. sci.
- Proposal writing skills
- Managing projects
- Lab equipment skills
- Managing people
- Non-academic career info.
- Public outreach
- NASA mission
- None
Source of Funds to Support Research

- NASA only: 53%
- Both NASA & NSF: 16%
- NSF only: 15%
- Other Source: 6%
- No Funding: 4%
- Not Engaged in Research: 6%
The 2-body problem!

Spouse’s or Partner’s Current Employment Status by Sex of the Respondent
What Next?

• What questions are not answered?
• What should be followed up?
  – Reporting on grad students and UGs from major universities
• Ask employers for their opinion of workforce?
• What do you think?