Snowmass Early Career Survey Results

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For the Early Career Survey Team
Career Stages

• Most (93%) respondents reported being currently in academia.

Career breakdowns for 2021 Snowmass Community Survey

- Early career scientists (Master's, PhD, Postdoc): 38%
- Faculty (teaching, tenure-track, tenured): 31%
- Scientists (junior and senior): 18%
- Not currently in academia: 7%
- Other (e.g., undergrads, engineers, technicians): 4%

*Not pictured: prefer not to answer, no response to career question
Early Career

- We define “early career” as master’s and PhD students, and postdocs.
  - 52.4% postdocs, 45.8% PhD students, 1.8% master’s students
- A majority work in universities, followed by national labs.

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Early Career: Next Steps

- Mixture of next steps

What are your current career plans?

- Accepted/plan to accept job offer within the last year: 19.64%
- Applied/applying for jobs within the last year: 19.90%
- Haven't applied for jobs recently but plan to: 51.42%
- Planning to get a PhD in Physics: 1.55%
- Taking a break: 0.52%
- Don't know: 6.98%
Early Career: A Preference for Academia

• Of those currently applying or planning to apply for jobs, academia is strongly preferred.

Please indicate how likely you are to apply for jobs in the following sectors:

1 (not at all likely)  
2  
3  
4  
5 (extremely likely)  
IDK or N/A  
No response

Percent of early career scientists

University
National Lab
Teaching Faculty
Industry (STEM)
Industry (other)
Government
Finance
Business
Other
Early Career: Academic Career-Related Concerns

- Respondents were most concerned about the availability of academic jobs.
- Funding and immigration were also major concerns.

Please indicate which of the following career-related concerns you find the most important to you and your future in HEPA.

1 (not important)  
2  
3  
4  
5 (extremely important)  
IDK or N/A  
No response
Early Career: Industry Career-Related Concerns

• Concerns about industry jobs were more varied.

Please indicate which of the following career-related concerns you find the most important to you and your future in industry.

1 (not important)  
2  
3  
4  
5 (extremely important)  
IDK or N/A  
No response

- Availability of industry jobs
- Immigration concerns
- Losing job/failing to advance
- Bureaucracy/administration issues
- Other
Early Career: Industries of Accepted Job Offers

- Of those that accepted (or plan to accept) a job offer, the vast majority did so in academia.
- 73% of accepted jobs are postdocs

What sector did you accept or plan to accept an offer in?

- Post-doctoral position (including national labs): 72.97%
- Non tenure-track research faculty at national lab: 2.70%
- Tenure-track research faculty: 16.22%
- Teaching faculty: 5.41%
- Government sector: 1.35%
- Industry (STEM): 1.35%
Faculty

- Includes tenured, tenure-track, retired and teaching faculty
- 31.3% of all respondents
- 2/3 are tenured
- 68.8% work in the U.S.

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- Not currently in academia - 7%
- Other (e.g., undergrads, engineers, technicians) - 4%

*Not pictured: prefer not to answer, no response to career question*
Faculty: How Time is Spent

- Faculty spend most of their time on research.
  - Followed by mentoring and teaching.
- Little time is spent on advocacy or outreach.

On average, how much time do you spend on the following career-related items over the course of a year?

- Research
- Teaching
- Mentoring
- Outreach
- Advocacy
- Other
Faculty: Mentoring

- Tenured faculty had slightly larger research groups.
- Few master’s students in groups
- 61% of faculty financially compensate their undergraduate students.

Average number of students and postdocs in faculty research groups:

- Undergrads
- Master’s students
- PhD students
- Postdocs

Tenure-track faculty

Tenured faculty
Scientists

- 18% of all respondents
- 46% are scientists, 54% are senior scientists
- 69% work in a national lab (including outside the U.S.)
- 30% have experience outside of academia.

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- Other (e.g., undergrads, engineers, technicians) 4%

*Not pictured: prefer not to answer, no response to career question*
Scientists: How Time is Spent

• Scientists spend a majority of their time on research and leadership.

On average, how much time do you spend on the following career-related items over the course of a year?

- Research
- Mentoring
- Outreach
- Advocacy
- Leadership
- Service
- Other

1 (not at all)  2  3  4  5 (almost all of time)  N/A  No response
Hiring and Visas

- Both faculty and scientists reported being negatively affected by past and present U.S. policies on visas.

Since you started taking part in hiring decisions, have past or present U.S. policies on visas affected your ability to hire talented individuals? (Faculty)

<table>
<thead>
<tr>
<th></th>
<th>Percent of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negatively affected</td>
</tr>
<tr>
<td>All faculty</td>
<td>2</td>
</tr>
<tr>
<td>Tenured faculty</td>
<td>4</td>
</tr>
<tr>
<td>Tenure-track faculty</td>
<td>1</td>
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</tbody>
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Since you started taking part in hiring decisions, have past or present U.S. policies on visas affected your ability to hire talented individuals? (All scientists)

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</thead>
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<tr>
<td></td>
<td>Negatively affected</td>
</tr>
<tr>
<td>Senior scientists</td>
<td>2</td>
</tr>
<tr>
<td>Scientists</td>
<td>4</td>
</tr>
</tbody>
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Outside of Academia

- 7% of all respondents work outside of academia.
- Of those employed, half attempted to find an academic job.
- 24% left academia within the last year.

**Position while in academia**

<table>
<thead>
<tr>
<th>Position</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Graduate student</td>
<td>26.1%</td>
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<tr>
<td>Postdoc</td>
<td>17.4%</td>
</tr>
<tr>
<td>Scientist</td>
<td>17.4%</td>
</tr>
<tr>
<td>Other position</td>
<td>20.3%</td>
</tr>
<tr>
<td>Engineer/technician</td>
<td>8.7%</td>
</tr>
<tr>
<td>Undergrad</td>
<td>5.8%</td>
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<tr>
<td>Faculty</td>
<td>4.3%</td>
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</table>

**Current position**

<table>
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<th>Position</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>STEM industry</td>
<td>39.1%</td>
</tr>
<tr>
<td>Retired/not employed</td>
<td>20.3%</td>
</tr>
<tr>
<td>Other position</td>
<td>15.9%</td>
</tr>
<tr>
<td>Other industry</td>
<td>7.3%</td>
</tr>
<tr>
<td>Government sector</td>
<td>8.7%</td>
</tr>
<tr>
<td>Finance</td>
<td>5.8%</td>
</tr>
<tr>
<td>Non-STEM position</td>
<td>2.9%</td>
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</table>
Outside of Academia

- Respondents use several skills obtained in academia.
- Extensive use of internet resources to obtain a job

<table>
<thead>
<tr>
<th>Percentage of respondents indicating a skill is valuable to their job.</th>
<th>Resources used to find a job outside of academia.</th>
</tr>
</thead>
<tbody>
<tr>
<td>84.3% Problem solving</td>
<td>65.1% Networking/LinkedIn</td>
</tr>
<tr>
<td>64.3% Programming</td>
<td>36.5% Coworkers</td>
</tr>
<tr>
<td>57.1% Basic research</td>
<td>19% Internships/training programs</td>
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<tr>
<td>52.9% Design</td>
<td>12.7% Career fairs</td>
</tr>
<tr>
<td>50% Applied research</td>
<td>12.7% Seminars/webinars</td>
</tr>
<tr>
<td></td>
<td>23.8% Other resource</td>
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Summary

• We surveyed people at various stages in their career, both inside and outside of academia.
• This presentation covers some highlights of career information obtained in the survey.
• The survey report provides much more detail.
• Career information is intended to be helpful especially for early career scientists.
  – In particular, the opportunities and challenges early career scientists face
• See also Erin Conley’s and Josh Barrow’s presentations.