Conclusion

- 77.4% of tracked alumni are either engaged in a geoscience career or in an advanced geoscience degree program.
- The most common post-bachelors pathway is into a Master's degree program. However, differences between racial and ethnic groups exist.
- Both minority status and the program's impact on educational/career interest are associated with post-bachelors pathway decisions.
- Alumni employment appears to vary by both race and ethnicity, and gender.

Future work

- Explore association between additional factors from applications and pre/post survey data (e.g. General Self-Efficacy, geoscience career score (measures of domain specific self-efficacy, desire/interest, future plans), science identity, etc.) and outcomes.
- Explore the relationships between associated factors and program outcomes through a multivariable logistic regression model.
- Identify other long running REU sites and explore across sites.

Acknowledgements

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Table 1: Comparisons of internship factors (e.g. participant demographics and self-reported programmatic impacts) and post-bachelors outcomes and as of June 2018. Factors associated with post-bachelors outcomes at the p < 0.05 level and an effect size above Cohen’s definition of “small” are indicated with an (*).

<table>
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<tr>
<th>Factors</th>
<th>Male</th>
<th>Female</th>
<th>Black</th>
<th>White</th>
<th>Hispanic</th>
<th>p</th>
<th>OR</th>
<th>Cramer’s V</th>
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<td>Degree of influence</td>
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<td>30</td>
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Figure 2a - Percentages of alumni employment (Male =51, Female=45, URM=12, and Majority=84) by broad category (Figure 2a) and by sectors (Figure 2b). Sectors with <5% for all groups were omitted.

Figure 1a - Alumni career paths post IRIS Internship. In Figure 1a, arrows are labeled with the number of interns who completed that pathway and are scaled accordingly. Boxes indicate a snapshot of the number of interns that are in that stage of their career as of the time of the survey. For example, 23 alumni are still completing their bachelor's. 36 alumni completed undergraduate degrees and enrolled directly into a PhD program, and 36 alumni have completed Master's degree and entered the workforce. The "Not Employed" category includes primarily recent graduates that have not yet entered the workforce.

Figure 1b - Alumni employment responses (Figures 2 & 3) was classified using a list of employment categories developed by the American Geosciences Institute for classifying the employment of geoscience students (Wilson, 2018). AGIs list was derived primarily from the North American Industry Classification System with several other geoscience specific categories identified from federal and other data sources that collect industry hiring information.

A chi square test of independence was applied to determine if there are associations between intern's post-bachelor education/career step and other categorical factors. Chi square tests were calculated in R (chisq.test). Where counts within the contingency table were less than five, an Fisher’s exact test was applied instead of chi-squared. The Fisher’s exact test was calculated in R (fisher.test). A standard significance level of p=0.05 was used to determine significance. Effect size for each table was determined by applying the Cramer’s V test calculated in R (assocstats).

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