



**1850568 Identifying Stakeholder Perceptions & Practices to Develop a Framework for Bioscience Industry Internships for Underrepresented Youth**  
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This project explores in what roles and in what ways do bioscience educators and industry professionals motivate students from historically underrepresented demographics to become aware of, interested in, and prepared for careers in the STEM workforce.

Project type: DTI/Strategies      Project start/end date: 2019-2022

Project URL: [www.biotechpartners.org](http://www.biotechpartners.org)

**Strategies:**

- ❖ Industry internships for students to apply STEM career skills in mentored professional settings
- ❖ Developed data science internship track in 2020-21 in partnership with Data Carpentry to prepare students in bioinformatics
- ❖ Amplified remote science curriculum through at-home, hands-on & demo activities
- ❖ Provided wrap-around service to meet the economic, academic, and social-emotional challenges

**Insights & Achievements:**

- Over 95% of interns placed successfully completed 6-8 week summer internships (n=48 students in 2019, 43 in 2020, 39 in 2021)
- 33 students completed data science internships in 2020 & 2021
- Enhanced awareness of STEM career pathways and practices
- Paper presented at [AERA 2021](#), video showcased at [2021 STEM for ALL](#), and forthcoming manuscript in the Journal of STEM Outreach on internships while sheltering-in-place

**Moving Forward:**

- Shift from in-person industry internships to virtual/hybrid context.
- Integration of bioinformatics to meet evolving industry trends; strengthening students' career skills in applied data analytics.
- COVID-19, remote learning, and social upheaval impacted students academically, socially, and emotionally, calling for trauma-informed approaches to education and workforce development.



# 1850568 Identifying Stakeholder Perceptions and Practices to Develop a Comprehensive Framework for Bioscience Industry Internships for Underrepresented Youth



## Example 2021 Internship Projects

Company	Project Description
BioMarin	Cleaned & analyzed metabolite data by using scripts and writing analytic routines. Developed data dashboard to assist in identifying gene sequences for targeted disease treatment
Joint BioEnergy Institute	Explored the separation and product recovery process in bioprocessing to assess economic variables and to develop a cost-effective bioseparation pathway
Lawrence Berkeley National Lab	Learned to use R, wrote code to separate data sets, to assess data quality, and analyze differences to explore the influence of demographic factors in a memory performance study across the lifespan

“I saw what my skills can actually do...being able to see the impact that you can make and what you’re making in the end, a [drug] treatment for someone who might need it, was something that I really liked.”  
- BP Student



## Internship Summary Data, 2019-2021

	Total Interns	Data Sci Interns	Internship Sites	Total paid hours	Total earnings
2019	44	0	21	7,040	\$86,220
2020	41	17	8	6,560	\$60,000
2021	39	16	11	5,460	\$85,793



“The most satisfying part is getting to know the students... I think they're at a point in their life where they can make a decision on what career path... letting them know that this is an option and that it's a very rewarding job, it's a very rewarding career, if they choose to take this path.”  
- BP Internship Mentor