Broadening Participation in STEM: Graduate Student Collaborations with University Resources to Promote Undergraduate Research
1. ‘Broadening Participation in STEM’ seminar
2. University resources for underrepresented groups
3. What can graduate students do?
4. Programs and their significance
5. Recommendations for others
Graduate Student Seminar

- Broadening participation [BP] in STEM—what it means, and why it matters in higher education.
- Goals:
  - Increase understanding of challenges facing underrepresented groups in STEM
  - Gain awareness of on-campus resources and organizations
  - Explore how graduate student perspective can be useful
  - Develop ideas to increase undergraduate interest in STEM research and graduate school
  - Create seminars to inform undergraduates of STEM research and graduate school
How could we contribute?

- SOURCE - Student Organization for Undergraduate Research and Career Exploration
- Promoting research experience for students, but lack expertise necessary for programming
- Reached out to US!
We developed two programs to address undergraduate needs:

1. Ice Cream for Graduate School
2. Let’s Taco-bout Research: Getting Involved in Research and Internships @ Miami... And BEYOND
Ice Cream for Graduate School

● Our journeys to graduate school

● Panel discussion
  ○ Benefits of Undergraduate Research
  ○ Preparing and Applying to Graduate School
  ○ Research-Based Career Exploration

Undergraduate Students interested in Research & Scholarly Activities are invited to attend

Ice Cream for Graduate School

A Panel Discussion & Social Featuring
Graduate Students in Biology

WHERE: Morris Hall Study Room (basement)

WHEN: Nov 8th, 6:30-8:00p

Discussion Table Topics:
• The Benefits of Undergraduate Research
• Preparing and Applying to Graduate School
• Research-Based Career Exploration
• AND MORE!!

Sponsored by:
The Office of Research for Undergraduates (ORU)
Student Organization for Undergraduate Research and Career Exploration (SOURCE)

Register to Win a $25 Shriver Center Bookstore Gift Certificate
Sign-in at the event or scan the QR code to register.
Our Journeys to Graduate School
Program Impacts

● High Attendance– 35 Students total
  ○ Variety of fields (18 Majors)
  ○ 27 STEM students– Biology/Chemistry (17), Engineering (8), Psychology (2)
  ○ Majority first-year students (29)
● Opportunity for student questions to panel
● Early introduction of graduate school to freshman students
● Discussed pathways other than medical school
● Added a personal connection with the idea of research
REU and Internships

- Covered 3 main topics:
  1) REU Panel and information
  2) Internal Opportunities at Miami
  3) Internships: Local and Abroad

- Informal Q&A and mixer afterwards with graduate students to address additional questions.
Example Internship Posting

*Scroll through different postings to see what qualifications agencies and programs are looking for!

List of REU

https://www.nsf.gov/crssprgm/reu/reu_search.jsp
Program Impacts

- 58 total students
- Wide range in STEM fields:
  - Biology/Chemistry (33), Engineering (14), Psychology (4), Computer Science (4), Physics (3)
- Mostly first/second-year students
  - Freshman (36), Sophomore (12), Junior (7), Senior (3)
- Many stayed to ask research questions
  - Able to direct to specific labs/professors
Program Outcome Summary

- Reached large range of majors
- Introduced research ideas to students early
- Promoted cooperation with multiple university offices and organizations
- Increased graduate student involvement in student outreach
Benefits to graduate students

- Identified undergraduate knowledge gaps and developed programming to address them
- Gained awareness of hurdles for underrepresented groups
- Discovered resources available to URM students at Miami
- Gained experience working with student organizations
- More knowledgeable about undergrad research opportunities
- Reflected on personal academic paths
Recommendations

- Learn what your campus has to offer to students and determine where there are gaps
- Partner with multiple departments to reach more students
- Branch out beyond academia
- Highlight diversity among faculty
- Obtain IRB approval beforehand to administer surveys to attendees
- Advertise early to more people
- Host programs in central location
Acknowledgements

- Dr. Joyce Fernandes
- Martha Weber
- SOURCE president Kenzie Crist
- Office of Diversity Affairs
- Women’s Center
- Miami University Biology Department
- Fellow seminar members