Resource Map for Students of Color Completing Science Research Projects
Session 7 URGE Deliverable

This is a draft Resource Map for GEMS URGE at Rider University. This was adapted from the “Sample Ph.D. Mentoring Plan” developed by Vashan Wright (Woods Hole Oceanographic Institution) and Karin Block (City College of New York and CUNY Graduate Center), License: CC BY-NC-SA 4.0. This document was designed as a resource for faculty who work with undergraduate students of color on Independent Research Projects.

GENERAL NOTE: Faculty advisors should monitor themselves and reflect on the students they mentor, especially if faculty are initiating the majority of projects. If we find that we typically ask non-minority students to work on these projects, we need to push ourselves to find interested Black, Asian, Latinx students.

Mentoring plan
- Students are required to write and submit a research proposal before they can register for Independent Research credit, which outlines meeting frequency and other details
  - For students with little research experience, we should create an example proposal that provides information that will be useful to the student (e.g., a project timetable, a schedule of faculty meetings, a grading scheme)
  - This proposal should also provide links to library resources and science librarian information for students who require help with literature searches
    - Subject Librarian link
    - Library databases
- Ronald E. McNair Program at Rider University

Rider University has been funded by the US Dept. of Education since 2007 to support underrepresented students who wish to pursue STEM fields in graduate school. This program supports students who meet criteria (currently I believe either first generation or low-income students are eligible. This criteria seems to change with funding cycles though). Angelica Benitez and Kimyata Valere oversee this program at Rider University and determine whether students are eligible. If so the program is targeted for students in their junior and senior years. If students are able to find a faculty mentor, then they will receive a summer stipend to support their research, access to GRE-prep and grad school resources, travel funds to conferences, support for REU applications, and become part of a summer cohort of students who are also interested in pursuing grad school in STEM fields. This program has a strong record of success in placing Rider graduates into graduate programs.

- Most science students are required to present their findings at Independent Scholarship
and Creative Activities Presentations (ISCAP) Day, but most undergraduates have little experience with poster/oral presentations
  ○ Poster/presentation templates should be provided for students
  ○ Examples of finished products should also be made available
  ○ Regular meetings should be scheduled near the end of the project to ensure that students are meeting their goals and getting help they require
    ■ If the project results are up to the standards of regional or national science conferences, faculty should do their best to help students find and fund the student’s attendance at SACNAS, NABG, AISES, GeoLatinas and other similar options.
    ■ There are also undergraduate research conferences such as NCUR that could be attended by many students
    ■ List of conferences frequently attended by undergraduate students
    ■ Rider Undergraduate Research Scholar Awards
    ■ See “Professional development resources” section below for more
  ● Self evaluation by both the faculty and the student should be completed throughout the project
    ○ At the midpoint (or several points throughout the project) the student could be provided with a brief survey that reminds them to look back at their proposal and check in on their progress
    ○ A plan with short-term goals could be made with their advisor if they feel they may struggle to complete their project on time

Essential resources
  ● Faculty and students should work together during the proposal writing process to ensure that expectations are well-understood (e.g., number of hours expected to work on the project each week, planning ahead in case the student will be out of town over teaching breaks)
    ○ This could include details on how to communicate (e.g., when email vs. texting is appropriate, when Public Safety should be contacted if an after hours issue comes up)
  ● Fieldwork resources
    ○ Students and faculty should have access to field safety resources
      ■ Safe fieldwork strategies for at-risk individuals, supervisors and institutions
      ■ Example field safety plan from UC Berkeley
  ● Equipment and outdoor gear should be made available for students who are unable to obtain it themselves
    ○ Faculty should pursue opportunities to provide research stipends for students when options are available, which should be prioritized for BIPOC and students in need
    ○ Faculty should prioritize purchasing gear for students if budgets are available (including resources for working outdoors, not just research needs)

Community support and mental health resources
  ● A google doc should be shared with all lab members detailing university services and events, as well as science organizations for people of color
- Center for Diversity and Inclusion
- Reporting and Responding to Incidents and Crimes
- Counseling Services
- Science Friday schedule
- ISCAP Day
- Science organizations (student memberships should be funded if possible)
  - SACNAS
  - NABG
  - AISES
  - GeoLatinas
  - ECO-LOG
- A list of clubs and organizations on campus that would assist students in making connections could also be included
  - Student Diversity/Multicultural Organizations
  - Student Academic Organizations
  - Off Campus Organizations?
- Discounted housing for students conducting research on campus in January or summer

Skillset support resources
- Writing Studio
- Statistics Courses: BNS 250 or ENV 200; reinforced in several upper level courses
- Library research support

Professional development resources
- Identify Fellowship and scholarship opportunities to share with students; e.g.:
  - Scholarship options: AGI Scholarships; Expanding Representation in Geosciences (ERG) Scholarship; Association of Women Geoscientists (AWG) Inclusion, Diversity, Equality, and Accessibility (IDEA) Scholarship program; AWG Laramide Awards for woman (cis-gender or transgender), gender fluid, and/or non-binary person; NOAA Dr. Nancy Foster Scholarship Program; Brown & Caldwell Scholarships
  - Summer experience options (including fellowships and internships): GeoCafes for Latinx Students; NSF REU programs
  - Field course opportunities: NAGT Field course scholarships; Association of Women Geoscientists Maria Luisa Crawford Field Camp Scholarship;
  - External professional networks for underrepresented groups: American Geophysical Union Bridge Program; Ecological Society of America SEEDS Program
  - Other lists of some of the above: The Diversity Project; Environmental Science.org; American Fisheries Society

- Outline departmental and regional seminars, presentation opportunities, and opportunities to meet with speakers for building a professional network
  - Science Fridays series
  - GEMS Alumni/Student Networking programs
  - Internships with local employers (hospital and physical therapy organizations), some through alumni
○ Individual faculty share contacts with students (e.g. GEMSMA Canvas page)

- Additional opportunities/resources for all of the above to be added when discovered

Recommendations
- Create a field safety plan for any BIPOC doing fieldwork (see example plan from UC Berkeley above) -- [started here](#)
- Obtain funds to create a “library” of hiking/camping/outdoor equipment
- A once-per-semester informal meeting could be organized for all science independent research students
  ○ Student introductions
  ○ Lightning talks introducing proposed projects
  ○ Opportunity to get to know peers and exchange contact information
- Find a way to share info about opportunities with students more effectively than the blasts of emails sent to students
- Discuss with Career Services about possible support to implement some of our recommendations