Broadening Diversity in the Biological Sciences: The Role of Small Collections

Gabriela Hogue
North Carolina Museum of Natural Sciences
Gil Nelson
Integrated Digitized Biocollections
Florida State University

Small Collections Workshop
9-10 April 2014
Central Michigan University
Mt. Pleasant, MI

This material is based upon work supported by the National Science Foundation under Cooperative Agreement EF-1115210. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.
A Few Numbers

Population 2012 (%)

- White (77.9)
- Black/African American (13.1)
- Native American (1.2)
- Other (7.8)

Hispanic/Latino = 16.9%

New PHDs 1993-2002

- Black (2.6%)
- Hispanic (3.7%)
- Other

PHDs 2008

- White (3690)
- Asian/Pacific Islanders (595)
- Latinos (253)
- Black (241)

528 iDigBio Attendees

- African American/Black (0)
- Native American (1%)
- Hispanic/Latino (7%)

US Census Bureau: Quick Facts (http://quickfacts.census.gov/qfd/states/00000.html)

National Center for Education Statistics (http://ccv.med.harvard.edu/diversity.htm)

National Center for Education Statistics (http://ccv.med.harvard.edu/diversity.htm)
Workshop Demographics (since 9/12)

Cultural Background
- Not Hispanic/Latino, 83.9%
- Hispanic/Latino, 6.8%
- Do not wish to provide, 8.5%
- Not provided, 0.8%

Ethnicity/Race
- White, 89.0%
- American Indian or Alaskan Native, 0.8%
- Asian, 4.2%
- African-American or Black, 0.0%
- Hawaiian Native or other Pacific Islander, 0.0%
- Not Provided, 5.9%

Gender
- Male, 49.2%
- Female, 50.8%

Citizenship
- US citizen, 59.3%
- Not provided, 26.3%
- Other non-US citizen, 5.9%
- Permanent resident, 8.5%
- Do not wish to provide, 0.0%

Disability
- None, 83.1%
- Not specified, 12.7%
- Hearing, 1.7%
- Mobility, 2.5%
- Visual, 0.0%
- Other, 0.0%
Broadening Minority Participation in the Biological Sciences: A Workshop Focused on Careers and Graduate Study Opportunities in Biology

Space for this workshop is limited. To register, complete the online registration form.

Please visit the workshop agenda for more information on the day's activities.

See the workshop flyer/announcement.

The University of Central Florida, University of Florida, Florida Museum of Natural History, and iDigBio are pleased to announce a free 1-day workshop for undergraduate students focusing on opportunities for careers and graduate study in field and environmental biology, biodiversity, ecology, and evolution. The workshop is open to anyone. A primary goal is increasing minority participation in the biological sciences within such groups as African and Black Americans, Native Americans, and individuals of Hispanic ethnicity. Registration is open to freshmen, sophomores, juniors, seniors, and recent graduates. Click here for the agenda.

The workshop will be held at the University of Central Florida's Live Oak Center Saturday, February 1, 2014. Activities will begin at 10:00 a.m. with a keynote address by Dr. Scott Edwards, professor of organismic and evolutionary biology at Harvard University and division director at the National Science Foundation.

Lunch will be provided and will include a special opportunity to interact with undergraduate and graduate students, post-doctoral fellows, workshop speakers, and biology faculty from several universities. Following lunch, attendees will have the chance to explore several hands-on stations featuring a variety of scientific specimens.

The end of the day will feature a reception and mixer with heavy hors d'oeuvres and the opportunity to win one of ten $25.00 Amazon gift cards as well as allow further opportunities for individualized conversation, personal attention, and networking.
Fifteen students accepted for this opportunity.

**What:** Free career shadowing opportunity.

**Who:** Undergraduate students interested in a career in the biological sciences.

**Where:** Florida Museum of Natural History, University of Florida, Gainesville.

**When:** April 17-19, 2014.

**Benefits**

- Shadow biologists and museum scientists in their daily work.
- Learn about biological collections and their importance to biodiversity science.
- Spend time behind the scenes of a major museum.
- Get hands-on experience in the biological sciences.
- Experience first hand an array of career opportunities in the biological sciences.
- Meet and interact with working scientists.
- Begin establishing your professional network.

Scholarship includes 2 nights’ lodging, meals, assistance with transportation. Competitive. Limited to 10 students.

Apply by March 1: http://tinyurl.com/flmnhshadowing

To learn more, e-mail Dr. Gil Nelson (gnelson.idigbio@gmail.com)
Where do we begin?

Research shows that kids that have developed an interest in science by the end of elementary school are more likely to pursue advanced science courses in high school or college.

How do we nurture that love of science?
Ways to Engage

Elementary school students
- Career days
- Shadowing
- Summer day camps
- Providing programs that showcase the collections

High school students
- Internships
- Community service projects
- Shadowing
- Junior curator programs

College students
- Internships
- Volunteer opportunities
How do we involve the younger generations?

• Get the parents involved via citizen science projects
  • Notes from Nature (notesfromnature.org)
  • Your Wild Life (yourwildlife.org)

• Provide programs for educators
  • Summer educator institutes or educator-in-residence
  • One day workshops – for teachers or at the schools
  • Fieldtrips
  • Resources on the web
Where do we start?

• Begin with your local educators
  • Provide web-based resources
    • Handouts (ex. what’s in my backyard)
    • Videos (short)
      • Basics of your specialty
      • Tour of the collection
      • Novel new approach to your research
      • A day in the life
    • Skype with the classroom
      • Q&A
  • Present at career day
  • Create a simple in-school program
  • Video contest

• Encourage educators to bring the students to the museum
  • Behind the scenes tours
  • Short presentation
  • Simple interactive programs
  • Send students home with citizen science information & how to get more involved
Let’s talk....

• Is your institution reaching out to elementary and middle schools?
  • What approach have you found works best?

• How can museums foster credit-based internships for high school students?

• What methods have been successful at your institution in opening collections to underrepresented populations?

• What are your biggest road blocks to reaching out to your local schools and underrepresented populations?

• Are smaller institutions more closely tied to their communities, and hence more likely to recruit from local sources?