Broadening Diversity in the Biological Sciences: Reaching Out to Underrepresented Populations

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### A Few Numbers

#### Population 2012 (%)
- White (77.9)
- Black/African American (13.1)
- Native American (1.2)
- Other (7.8)

**Hispanic/Latino=16.9%**

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

#### 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%)
- Other

[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%
- Not provided, 0.8%
- Do not wish to provide, 8.5%

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

Gender
- Male, 49.2%
- Female, 50.8%

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

Disability
- None, 83.1%
- Not specified, 12.7%
- Hearing, 1.7%
- Visual, 0.0%
- Mobility, 2.5%
- 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.
One Approach for a Solution

NSF-Funded Workshop Series

Broadening Diversity in the Biological Sciences:
A Series of Workshops for Undergraduate and Graduate Students

1st workshop: University of Central Florida (1 Feb 2014)

- Goal: 100 students
- Selection of speakers
- Guidance on funding, course selections, opportunities
- Free food!
- Working, interactive lunch
- Hands-on activities
- Reception
Florida Undergraduate Research Conference

FIU is the site of FURC 2014 on February 21-22. It is the largest multi-disciplinary undergraduate research conference in the State of Florida. (REGISTER NOW →)

Over 400 students from more than 40 colleges and universities will present posters, workshops, and lectures. Recruiters from graduate schools from throughout the US will also be attending.

Abstracts Due: January 6, 2014
Florida Undergraduate Research Conference
  • Recruit
  • Follow up with 2-day workshop
  • 10 students shadowing FLMNH scientists

Working on a venue in the West (Native Americans/Hispanic)
  • Tentatively collaborating with Oklahoma State

Working on a venue in the East/Northeast (African American/Black/Hispanic)
Broadening Diversity in Biodiversity Projects
The New York Botanical Garden Experience

Bronx Demographics

47.3% of residents of Bronx speak English at home.
43.6% of residents speak Spanish at home (51% speak English very well, 22% speak English well, 18% speak English not well, 9% don't speak English at all).
5.4% of residents speak other Indo-European language at home (57% speak English very well, 26% speak English well, 15% speak English not well, 3% don't speak English at all).
1.6% of residents speak Asian or Pacific Island language at home (44% speak English very well, 26% speak English well, 23% speak English not well, 7% don't speak English at all).
2.1% of residents speak other language at home (64% speak English very well, 25% speak English well, 9% speak English not well, 1% don't speak English at all).

Foreign born population: 385,827 (29.0%)
(39.5% of them are naturalized citizens)

Bronx Educational Institutions
• Schools (k-12); 520
• City wide magnet school: Bronx High School of Science
• Bronx Community College
• Lehman College

NYBG Programs:

On site (Children’s Adventure Garden, Greenschool)

Off site: Online courses, kits, curriculum aids; also summer and out-of-school time programs
Internships

Unpaid Internships
• Approx. 10 per year; usually high school, foreign students

Paid Internships
• 5-10 per year, recruited nationally, preference given to Bronx residents

Intern benefits
• weekly enrichment program
• Publications (blogs)
• End of the season symposium
• Experiences in support of Science Fair competitions
More about Osborne Association Partnership

Specific Activities
• Initial meeting with Osborne principals, tour of training facility (2 hrs.)
• Recruitment: High school diploma or equivalent required; some college preferred; commitment: 5 yrs. per week for 4 weeks.
  Compensation: $7.50 per hour (up to 20 hrs. total, plus transportation stipend)
• Training course: 7 hrs. at NYBG at start of course:
  Lectures (9 am–noon):
  - Introduction to Botany
  - Introduction to Scientific Collections
  - Field trip on NYBG grounds to look at plants
  - Tour of Herbarium Facility
  Lunch break
  Hands on training 1:30–4:30
  - Interpreting specimen labels
  - Data transcription software training
  - Internet reference training
  - Practice; proof reading, data editing training
• Work accomplished: about 3000 records transcribed; quality generally high.
Other Ideas

Garden volunteers get credit for additional benefits by volunteering in the Herbarium

Open House events

Transcription crowd sourcing as formal educational activity

Casual visitor data transcription, in conjunction with exhibits
Discussion Topics

Obstacles and barriers?

Suggested strategies?

Recruitment strategies
  • How to target?
  • Where to target?

Distractions from competing fields or disciplines?