The Institute for Broadening Participation

Building and Fostering Partnerships to Increase Participation and Diversity in STEM
IBP’s Mission

• To make education and careers in science more accessible to students, particularly underrepresented minorities

• To support faculty and administrators as they work to include students from a variety of backgrounds in their programs

• To foster an on-going exchange of ideas and resources between individuals and institutions who are working to navigate their future in the STEM fields
Why is Diversity Imperative?

• “A matter of national need.”

• “S & E workforce impacts our ability to compete in the global marketplace. All talent is needed.”

• “We cannot afford to lose women and URM* students.”

• “Female and URM faculty will help attract and retain female and URM students.”

• Quality of Education - “diversity of viewpoints and experiences provides a richer educational environment for students and faculty alike.”

• “Diverse teams are more effective problem solvers.”

* URM: “under represented minority,” includes African Americans, American Indians and Alaska Natives, Pacific Islanders, and Latinos/as.
Parity line: URM are 31% of U.S. 20-24 year olds

Sources: All but doctorate data: NSF Science & Engineering Indicators, 2006; Doctorates: NSF Survey of Earned Doctorates, 2006. The most recent dates for each metric are reported. Bachelors and Masters includes U.S. Citizens and
Historically Black Colleges & Universities
What We Know are Best Practices:

- Institutional Leadership
- Targeted Recruitment
- Engaged Faculty
- Personal Attention
- Peer Support
- Enriched Research Experience
- Bridging to the Next Level
- Continuous Evaluation
- Comprehensive Financial Support
Immediate Action Items:

- Develop a Recruitment Plan
  Assign Tasks and Due Dates to Specific People

- Develop a Retention Plan
  Assign Tasks and Due Dates to Specific People

- Incorporate Routine Formative Evaluation into your Programs
What we do to Help:

Virtual Outreach & Face to Face Outreach
www.PathwaysToScience.org

- Programs
- Contacts
- Profiles
- News
- Events
- Photo Slideshows
- Documents & Best Practices
Institution Hubs

View programs, contacts, photos, news, events, profiles, and a locator map for 892 different institutions.
For each of the 1,366 programs in our database, view program information including participating institutions, program brochures and videos, academic disciplines, contacts, photos, news, events and profiles.
Web Statistics

Peaks of over 40,000 visits per month
Future Directions: Social Networking Tools

Using Facebook to promote programs and network with students and Faculty/Administrators
Face to Face Outreach

To Faculty/Staff:
✓ Conference presentations
✓ Small Meetings

To Students:
✓ Presentations at conferences
✓ Student Information Form
✓ Information booths
Student Directory

- Began in 2003
- 30,000+ records
- Over 70% underrepresented minorities
- Growing by 3,000 - 5,000 students per year (we added 5,700 students in 2008)
- Includes data from partner organizations such as GEM, CIC-SROP, the Leadership Alliance, and NSF AGEP, IGERT, and REU
- In 2008, we provided student lists to 24 STEM programs wishing to reach out to URM students. These lists totaled 43,400 student names (9,000 individual students) and included 49 different declared majors.
Summer Research Experiences for Undergrads

Summer Research Opportunities by Institution

- A-Z
- K-O
- P-T
- U-Z

An exclamation mark denotes a program with an approaching deadline.

Institution

- Academy of Natural Sciences, Philadelphia, PA
- Botany, Entomology, Environmental Research, and History of Science at the Academy
- Argonne National Laboratory, IL
- Arizona State University, AZ
- Arizona State University, PA
- Research Internships in Science and the Environment (RISE)
- Auburn University, AL
- Micro/Nano Structural Materials, Nanotechnology, and Devices RISE

Map of the United States showing summer research opportunities for undergraduates.

www.PathwaysToScience.org
Example: REU Outreach Timeline 2007-08

**July 1**
- 4,000 emails

**Oct 15**
- 908 emails

**Nov 15 & 20**
- 4,000 emails

**Dec 15**
- 4,000 emails

**Jan 9 & 10**
- 4,000 emails

**Feb 15**
- 2,682 emails

**March 1**
- 130 emails to students who completed web forms

---

**Ongoing:** Conference and Meeting Presentations and Student Data Collection

**July 1**
- 4,000 emails

**Oct 15**
- 908 emails

**Nov 15 & 20**
- 4,000 emails

**Dec 15**
- 4,000 emails

**Jan 9 & 10**
- 4,000 emails

**Feb 15**
- 2,682 emails

**March 1**
- 130 emails to students who completed web forms

---

www.PathwaysToScience.org
Virtual Outreach: Visits per day to our Pathways Site

![Graph showing visits/day and emails sent from Fall 2008 to Winter 2009.](PathwaysToScience.org)
Outreach-Mentoring and Professional Development

- MS PHD’S (Minorities Striving and Pursuing Higher Degrees of Excellence in Earth System Science)

- National Alliance for Doctoral Studies in the Mathematics

We use digital tools to supplement face-to-face mentoring activities:
- web forums
- list-serv
- online application forms & review process
- VOIP and video-cams
## The Phases

<table>
<thead>
<tr>
<th>Professional Organization</th>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>San Francisco, CA</td>
<td>Organization Specific</td>
<td>Washington, D.C. area</td>
</tr>
<tr>
<td>Dates</td>
<td>November/December</td>
<td>Spring-Fall</td>
<td>Spring</td>
</tr>
</tbody>
</table>

- The Students participate in three phases designed to facilitate professional development, mentoring and networking activities.

- The MS PHD’S community provides a supportive environment in which participants develop strategies and professional skills necessary to excel in the Earth System Sciences.
MS PHD'S 2008
Minorities Striving and Pursuing Higher Degrees of Success in Earth System Science

Number of Participants

- 1
- 2
- 3
- 4
- 5 or more

www.mspPhds.org
IBPParticipation
Institute for Broadening Participation
Produced by the Institute for Broadening Participation, December 5, 2008

www.PathwaysToScience.org
The Institute for Broadening Participation

P.O. Box 607
Damariscotta, ME 04543
1-866-593-9103

Ashanti Johnson
Executive Director
apyrtle@ibparticipation.org

Sandra Thomas
Senior Administrator
sthomas@ibparticipation.org

Liv Detrick
Assistant Director
ldetrick@ibparticipation.org