Diversity Initiatives at LDEO
2008-2011

Office of Academic Affairs & Diversity
LDEO Directorate

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LDEO Diversity Initiatives: 2008-2011

Introduction

This document provides an outline of diversity initiatives at LDEO over 2008-2011, carried out by the Office of Academic Affairs & Diversity (OAAD), housed within the LDEO Directorate. Created in 2008, the Office of Academic Affairs & Diversity was set up as a response to the recommendations of the NSF-ADVANCE program (2004 – 2009) at Columbia, the goals of which were to:

• Change the demographics of the science and engineering community at Columbia through innovative hiring practices and by targeting women and minority leaders;
• Cultivate an environment that fosters and attracts women and minorities in science and engineering; and
• Stimulate an institutional cultural shift based on social science research about gender and race.

The Office of Academic Affairs & Diversity recognizes that diversity issues are inextricably linked to academic affairs, and that factors influencing diversity therefore need to be integrated into academic affairs. Accordingly, this office participates in those efforts and decision-making processes that impact both academic and diversity issues (including processes relating to appointments & promotions, salary structures, LDEO-wide governance and policy-making). The goals of this office are to:

• Institutionalize the findings and recommendations of the ADVANCE program
• Develop and implement new policies, procedures and programs with regard to increasing the number of women and minorities among the scientific staff
• Foster career advancement of junior scientists and postdoctoral scholars
• Improve the quality of the work environment for all by adopting proactive policies and increasing institutional accountability.

The remainder of this document is comprised of the following sections:

1. The background against which LDEO’s diversity efforts were initiated
2. LDEO demographics and the challenges posed by these
3. LDEO’s diversity initiatives over the period 2008-2011

Background

Staff diversity initiatives have been a core function of the LDEO Directorate beginning with the directorship of G.M. Purdy. In particular, OAAD was established in part to improve coordination and communication with Columbia’s centralized diversity offices and programs. Quantitative and qualitative baselines were established through the administration of a work environment survey by the ADVANCE project in the spring of 2005. This survey targeted both male and female scientists and covered topics such as work environment, professional employment, diversity, work-life, and demographics. The findings of this report showed:

- Approximately 20% of research scientists were women. That proportion declined as rank increased.
- Women respondents consistently reported experiencing a more difficult work environment than men. They reported receiving less respect from colleagues and perceived departmental / unit processes as less fair than their male colleagues.
- Women reported experiencing gender-related discrimination and adversity.
- Neither the men nor women surveyed believed that diversity was a goal of their department / unit.
- Concerns were expressed about the hierarchy between officers of instruction and officers of research.
- More than half the female respondents reported that their family responsibilities hindered their career advancement.

Regardless of gender, a significant proportion of scientists had been approached with outside offers, and both women and men were equally likely to translate an outside offer into a retention offer. There were also no significant differences in the work activities in which scientists were engaged. Men and women also reported similar participation as
members and chairs of institutional committees as well as similar levels of involvement in national or international committees. Also, responses to the open-ended questions indicated that both men and women found the LDEO environment to be intellectually stimulating.

The recommendations of the ADVANCE committee as they related to LDEO were to:

- Improve the institutional climate by promoting awareness of subconscious bias and stereotype threat;
- Improve the status of Lamont-Doherty scientists relative to faculty;
- Promote a more diverse work environment;
- Adopt family friendly policies;
- Create incentives and accountability for mentoring; and
- Increase the number of women among the scientific staff and in leadership positions

While the Doherty track (Officers of Research) was quantitatively more diverse than the traditional faculty track (Officers of Instruction), this only amplified existing discussions on diversity and OoR vs. OoI inequities. The results of the ADVANCE survey served to precipitate more coordinated action on these issues. Lamont scientists voiced their concerns to the LDEO leadership using formal and informal channels. These were:

- **Gender-based inequity**: Diversity in the Doherty track existed despite a disadvantaged environment compared to assistance offered to Officers of Instruction – there were no family friendly policies, thereby disproportionately impacting women as the survey revealed that more than half the women respondents indicated that family responsibilities hindered their career advancement; no institution-wide studies comparing male and female salaries for each rank; and no clearly defined approaches or accountability for mentoring junior scientists, i.e. the stage at which women were more likely than men to leak out of the academic pipeline.

- **Job-based inequity**: Compared to faculty, the Doherty track was lacking in many regards – low job security; a 12-month academic year as opposed to a 9-month term for faculty; no time for paid professional development; and an overall perceived lower status than faculty.
The irony that the hiring flexibility offered by the Doherty track (a traditional soft-money position) offered an institutional path toward improving diversity became an important motivator for improving the career environment for Officers of Research at LDEO. This developed into a unique initiative to create a new track at Columbia for soft-money scientists employed at LDEO. This proposed new track, the Lamont Research Professor track, would ideally include some key benefits that faculty received, while at the same time take into consideration the requirements of a research environment where scientists are expected to raise funding to support their research. This new track would also offer a more sustainable structure for the soft-money environment that is an important part of LDEO’s historic record of success by offering greater security to the Lamont scientists As a corollary, this would be expected to attract and retain more women in scientific ranks at LDEO.

*LDEO Directorate Response*

As a response to the concerns and suggestions raised by the Lamont scientists, as well as the findings and recommendations of the ADVANCE committee, the LDEO Directorate took the following steps:

- Implementing the creation of the Lamont Research Professor track, which came into effect July 1, 2010 upon approval by the Columbia Board of Trustees;
- Creating the Office of Academic Affairs & Diversity in October 2008, housed within the Directorate.

*LDEO Demographics at a Glance*

The Lamont Campus is the earth science campus of Columbia University and is home to approximately 500 full-time employees in scientific, staff, administrative and faculty positions. The individual units housed on the Lamont Campus are the following:

- Lamont-Doherty Earth Observatory (LDEO)
- Department of Earth & Environmental Sciences (DEES)
The administration of the Department of Earth & Environmental Sciences (DEES) falls under the School of Arts & Sciences, while that of LDEO, IRI, CIESIN and Tropical Agriculture fall under the Earth Institute. The DEES faculty are members of the Lamont research staff and are part of the same intellectual framework. There is a symbiotic relationship between the Lamont scientists and DEES faculty concerning research directions, projects, and teaching. In addition, LDEO scientists frequently mentor graduate students enrolled in DEES degree programs. The management of LDEO and DEES – including strategic planning and hiring objectives - is closely coordinated. Accordingly, activities and strategies by LDEO impact DEES and vice versa – a fact that has been taken into consideration while developing the LDEO Diversity Plan.

Definition of Diversity

There are two different interpretations of “diversity” that are relevant here:

1. Gender and Racial/Ethnic Diversity: Diversity initiatives at LDEO have so far been based on this definition of diversity, a usage consistent with national research on diversity in the physical sciences. Within racial /ethnic diversity there is a distinction between “under-represented minorities” (URM) and “minorities” with the former specifically implying Blacks, Hispanics and Native Americans, and the latter implying Non-Caucasians in general. Data from NSF and the U.S. Census Bureau indicate that approximately 88% of doctoral degrees in the earth and environmental sciences are awarded to Caucasians, and only about 5% are given to under represented minorities. At LDEO where approximately 90% of the scientists (excluding postdoctoral

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1 Statistical Abstract of the United States, U.S. Census Bureau, 2011
researchers) are Caucasian, racial/ethnic diversity implies all minorities and is not limited to URM.

2. **Broader Concept of Diversity**: This includes, but is not restricted to, diversity issues such as sexual orientation, age, faith, disability status, and mental health status to name a few. While there have been no specific efforts targeting these areas so far, we expect to address these topics over 2011 – 2014 and to promote awareness and develop policies as appropriate.

*Scientist Categories at LDEO*

Scientists at LDEO (excluding postdoctoral researchers) fall into one of three categories: *Lamont Research Professors* (formerly *Doherty Scientists*); *Research Scientists*; and *Staff Associates*. Each scientist is housed in one of six research divisions. The central oversight of all research divisions rests with the LDEO Directorate. The Office of Academic Affairs & Diversity is housed within the LDEO Directorate and is responsible for developing policies, programs and initiatives impacting academic affairs (such as new hires, promotions, salary structures and institutional support) and diversity issues (such as the racial composition and gender of the scientific staff). Recent efforts to promote diversity appear to have had an impact on the demographic composition of the scientific staff particularly with respect to gender, as shown in the figures below.
Figure 1: LDEO Scientists by Gender 2005 - 2011

Figure 2: Junior Doherty Scientists/ Lamont Research Professors: Gender 2005–2011
Figure 3a: Doherty Scientist/ Lamont Research Professors: Race/Ethnicity 2005–2011

2005
N=69

White Male 66%
Asian Male 15%
White Female 15%
Asian Female 3%
Hispanic Male 1%

2008
N=66

White Male 67%
Asian Male 12%
White Female 18%
Asian Female 3%

2011
N=74

White Male 62%
Asian Male 13%
White Female 22%
Asian Female 3%
Figure 3b: Research Scientists: Race/Ethnicity 2005 – 2011

**2005**
N = 12

- White Male: 58%
- White Female: 17%
- Asian Male: 17%
- Hispanic Male: 8%

**2008**
N = 14

- White Male: 64%
- White Female: 29%
- Hispanic Male: 7%

**2011**
N = 15

- White Male: 59%
- White Female: 20%
- Asian Female: 7%
- Asian Male: 7%
- Hispanic Male: 7%
Figure 3c: Staff Associates: Race/Ethnicity 2005 – 2011

2005
N = 39

2008
N = 37

2011
N = 42
Most categories of scientists show an increase in the proportion of women over time. This increase is most pronounced in the case of the junior scientists on the Lamont Research Professor track (Figure 2) where the proportion of women among junior scientists has doubled from 18% in 2005 to 36% in 2011. For this track as a whole the proportion of women has gone up from 17% in 2005 to 24% in 2011. For research scientists and staff associates these numbers are up from 15% in 2005 to 27% in 2011, and from 23% in 2005 to 29% in 2011 respectively.

With respect to race/ethnicity the overall change has been slightly worse overall than 2005 (Figures 3a, 3b, and 3c) though given that the changes occurred in both directions over the period 2005 – 2011, it is not possible to identify a trend. For the Doherty/ Lamont Research Professor track the proportion of Caucasians has increased slightly from approximately 81% in 2005 to 84% in 2011, the latter still being marginally lower than the 2008 value of 85%. For Research Scientists it has increased to 79% Caucasian in 2011 from 75% in 2005, this still being lower than the 2008 value of 93%. For Staff Associates the number of Caucasians has decreased from 89% in 2005 to 84% in 2011, this being greater than the 2008 value of 77%. The data suggest than an increased hiring of Caucasian women, without an increased hiring of racial/ethnic minorities has led to a slight decline in the overall percentage of racial/ethnic minorities within our scientific staff. Given that the absolute number of racial/ethnic minorities is very small, detailed statistical analysis is unfeasible.

The above data raise questions about why changes in racial/ethnic composition did not match the changes in gender composition of the scientific staff. National data on the earth sciences indicates some key differences between gender diversity and racial diversity. With respect to gender, our patterns are consistent with recent research\(^3\) showing that the biggest leak in the academic pipeline occurs during the postdoctoral years. The research also shows that women bear a disproportionate burden of familial needs compared to men – a result consistent with the ADVANCE survey. Without institutional support to accommodate these needs, women are less likely to advance in their careers at the same rate as their male counterparts.

\(^3\) "Staying Competitive: Patching America’s Leaky Pipeline in the Sciences", University of California at Berkeley & Center for American Progress, November 2009.
counterparts. This implies that it is possible for institutions to increase gender diversity by adopting proactive policies, thereby reducing the leak in the pipeline.

The leak in the LDEO pipeline is illustrated as follows: at the doctoral student level, the 2008 gender ratio was approximately 56% female compared to 44% male; at the postdoctoral level it was approximately 49% female and 51% male, and at the junior scientist level it was approximately 25% female and 75% male. This is consistent with what the research suggests. With a combination of various institutional efforts, the percentage of women at the junior scientist level has increased to 36% in 2011, a trend we hope to continue. It is also pertinent to point out that approximately 80% of the postdoctoral scholars are international, many of whom express intent to return to their home countries after their postdoctoral research at LDEO. Nonetheless, it appears to be within the capacity of individual institutions to increase the number of women in their scientist ranks.

Unfortunately this ability is severely limited in the case of racial diversity where as indicated earlier national level data indicate that Blacks, Native Americans, Hispanics, and Asians/Pacific Islanders taken together constituted approximately 5 percent of the doctoral degrees given out in the earth sciences and that approximately 88% percent of doctoral students in the earth sciences are Caucasian – implying that we do not have much of a pool to begin with. Figure 4 shows this “broken pipeline”, reflecting the situation in middle and high schools across the country and is not within the capacity of an individual institution, limiting the recruitment of such candidates. In this regard, however, our student demographics are better than national averages. The 2011 DEES data (Appendix 1) show 63% Caucasian students (as opposed to the 88% national average). However, less than 10% are URM indicating the need to try and create a pipeline of such students into the earth sciences. This is further discussed in a subsequent section.
Postdoctoral Researchers at LDEO

Postdoctoral researchers are the most diverse group at LDEO, more balanced across race/ethnicity and gender than any other group (Figure 5). Almost half the postdoctoral scholars are female and a third non-Caucasian, most of this racial/ethnic diversity stemming from international Hispanics and Asians. Approximately 80% of our postdoctoral scholars are international and many express an intention to return to their home countries after their postdoctoral research at LDEO. Postdoctoral scholars (entry-level positions at LDEO) form a feeder pipeline into our scientific research staff positions. Based on 2008 data, approximately 38% of our postdoctoral scholars were promoted to junior scientist ranks at LDEO. Efforts to increase retention of postdoctoral scholars will have a positive impact on the overall diversity of the LDEO research staff. Institutional efforts are already under way to improve the quality of the postdoctoral experience – a subsequent section of this document describes these efforts and initiatives.

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Figure 5: Postdoctoral Researchers by Race and Gender 2005 – 2011

- 2005
  N=22
- 2008
  N=27
- 2011
  N=36
LDEO Diversity Initiatives 2008-2011

With the creation of the Office of Academic Affairs & Diversity in 2008, there have been concerted efforts and initiatives targeting diversity. While it is too early to identify which efforts have been more successful than others, we can speculate that the combination of all of these efforts, along with strong support from the LDEO leadership, has enabled an increase in gender diversity. Using 2005 as the baseline, there have been measurable changes in the gender diversity of the scientific staff, while racial/ethnic diversity appear to present a challenge that indicate a need for a long-term strategy. The various diversity initiatives that were implemented over 2008-2011 are described below.

Diversity Initiatives

I. Search Committees

II. Awareness and Outreach

III. Advancing Junior Staff

IV. Visibility of Women & Minorities

V. Institutional Support & Family Leave Policies

I. Search Committees

Search committees play a crucial role in determining the demographic composition of new hires; accordingly awareness on diversity issues on the part of search committee members is crucial in promoting diverse searches. Starting in 2009, new guidelines and procedures for search committees were put in place to increase diversity among searches for scientific staff\(^5\). These guidelines were based on findings from social science research as well as recommendations from ADVANCE. These included information on best practices for searches, subconscious bias, composition of search committees, targeting diverse venues for posting jobs, and the inclusion of the Assistant Director for Academic Affairs & Diversity in

\(^5\) Copies of “Resources & Guidelines for Search Committees at LDEO” can be requested from the LDEO Directorate.
all searches, with full access to applicant information, search committee composition, and demographics of the applicant pool. These new guidelines led to a dramatic increase in the diversity of the applicant pool.

Figure 6a shows that 8 out of 10 searches over the period 2009-2010 showed applicant pools with greater than 70% diversity (i.e. female and/or racial minority), and 5 out of 10 showed a diversity of at least 80%. This is in contrast with the period 2007-2009 where only 4 out of 10 searches showed a diversity of more than 50%. Figure 6b illustrates the composition of new hires over 2009-2010 (excluding postdoctoral scholars, a diverse group compared to the rest of the scientific staff) showing that approximately half the new hires were either women or minorities.

*Figure 6a: Diversity in Applicant Pool for LDEO Searches for Officers of Research (Excluding Postdoctoral Scholars) 2007-2010*

*Percentage Diversity* calculated as the number of women and/or minorities as a percentage of the total number of applicants.

*Despite this increase, there has been very little increase in the percentage of underrepresented minorities (Blacks, Native Americans, and Hispanics) – a large portion of the above increase was from the increase of Asians in the applicant pool.*
II. Institutional Awareness

Factors affecting diversity within an institution are often related to factors pertaining to academic affairs such as salary structures, appointments & promotions, institutional governance, and awareness on how decisions impacting the greater body are made. Greater awareness of the workings of the institution enable greater transparency and accountability. Since 2008 there have been sustained efforts to spread awareness on diversity issues and their close connection with academic affairs and institutional governance. The following information has been disseminated publicly in an attempt to promote awareness\(^\text{7}\):

1. Salary comparisons based on race and gender among LDEO scientists at different ranks.
2. The demographic composition of LDEO officers of research by race and gender.
3. The demographic composition of invited seminar speakers by race and gender.
4. A summarized version of the LDEO bylaws (that define how the Observatory is governed), written in an easy-to-understand format, making it easier to comprehend

\(^{7}\) All of these can be made available upon request from the LDEO Directorate
the workings of the LDEO leadership. This included information on promotions, appointments, and policy-making. We are in the process of implementing a revised version of the bylaws that will also be disseminated to the entire institution.

5. Information on subconscious bias and discrimination, as well as best practices for search committees to promote diversity among the scientific staff.

These efforts are expected to become a part of larger efforts in the future on institutional research and awareness.

III. Advancing Junior Staff

Retaining junior scientists and postdoctoral scholars (i.e. the most diverse groups at LDEO) will promote diversity within the overall scientific staff. This requires concerted efforts to help them advance within the institution. Some of the current efforts in place that focus on advancing junior staff are:

- **Summer Research Life Series**: This is a series of seminars and workshops held over the summer and are aimed at providing career guidance to junior scientists at LDEO. These sessions encompass a wide range of areas that are especially relevant to junior scientists. The 2009 and 2010 series included sessions on grant management; proposal writing; PI responsibilities; the workings of key federal funding agencies; promotions and career advancement within LDEO; postdoctoral mentoring; and research ethics and responsible conduct. For the 2012 series we hope to include new topics based on feedback from the junior staff on what other sessions they would like to see included in this series.

- **Lamont Leadership Forum**: This is a platform for junior scientists to discuss and exchange ideas pertaining to career advancement. The various activities of this forum include:
  - **Hosting lectures**: Lectures benefiting junior scientists are held on an average of once a semester. Invited speakers have included: Candace Major, Program
Director at NSF, who gave a talk on proposal writing (NSF is LDEO’s single largest source of federal funding); Brenda Ekwurzel, a senior climate scientist at the Union of Concerned Scientists, who gave a talk on careers in science policy and leadership; and Richard Hayes, Deputy Director of Communications at Union of Concerned Scientists, who did a workshop on scientists talking to the media.

- **Awarding small grants:** Small grants (approximately $500.00) are awarded to junior scientists to attend leadership conferences. Four grants have been awarded so far.

- **Postdoctoral Luncheon:** The annual postdoctoral luncheon with the Director allows postdoctoral scholars to meet with the LDEO Director and express their thoughts and concerns in an informal setting.

While there is no specific diversity target for the Lamont Leadership Forum or the Research Life Series, these events being open to all junior scientists regardless of gender or race, they foster an environment that promotes professional development and better mentoring – identified in various diversity literature as important factors in promoting diversity.

- **Postdoctoral Mentoring Plan:** In the fall of 2010 LDEO instituted a mentoring plan for postdoctoral scholars. This was based on discussions with postdoctoral scholars that were started at the 2009 Postdoctoral Lunch with the Director, along with the 2009 NSF requirement that proposals requesting funding for postdoctoral scholars must show how the postdoctoral scholar will be mentored. This plan is based on a series of communications and interactions between the postdoctoral scholar and his/her advisor, and advises mentors to take a proactive role in guiding their postdoctoral scholars on career advancement. Mentors are expected to provide guidance on career paths, advancement within LDEO, and also help integrate postdoctoral scholars into the scientific community both internally and externally. This is still a new initiative and it is too early to assess any impact, but it has been well received by the postdoctoral scholars. The Office of Academic Affairs & Diversity has been collecting feedback from postdoctoral scholars on the quality of
their mentoring experience. This feedback will be presented anonymously to the LDEO Executive Committee during 2011-2012, after which we expect to adjust/change the plan based on the feedback received. Postdoctoral scholars are the most diverse group at LDEO, and efforts to improve the quality of their postdoctoral experience is expected to increase retention as they get promoted into junior scientist ranks, which will contribute towards diversifying the LDEO scientific staff.

IV. Visibility of Women & Minorities

Current research indicates that low visibility and recognition of women and racial minorities compared to their male colleagues contributes to leaks in the pipeline and women not attaining senior positions. Our efforts at increasing the visibility of women and minorities are listed below:

- **Marie Tharp Fellowship**: Started during ADVANCE, this prestigious fellowship brings women scientists to Columbia to collaborate with earth scientists here for a period of three months. This fellowship carries with it a monetary award of up to $30,000 per fellow. In 2010 this award was institutionalized in the LDEO Directorate (with support from the Earth Institute) and restructured to allow for a greater number of fellows per year. With active support from the LDEO collaborators, we have raised enough funds to bring in 4 fellows annually instead of 2 – a trend we hope to continue. In addition, as word of this fellowship has spread, the quality of the applicants has been increasingly outstanding, and has included a Minister for the Environment, and a former member of the Intergovernmental Panel for Climate Change (IPCC). The expectation is that these fellows will forge long-lasting ties with LDEO researchers, opening up the possibility of recruitment in the future, thereby increasing diversity among the scientific staff (a former Marie Tharp fellow is currently being recruited for a faculty position at DEES).

- **Director’s Science of Diversity Seminar Series**: This is aimed at exploring the causes and consequences of diversity in multiple domains using social and behavioral science research. This initiative seeks to disseminate research findings on the impact of diversity
on scholarly excellence, given the past research that has shown that greater educational benefits are associated with more diverse academic communities. This series has raised awareness on the issue of diversity among the scientific staff within LDEO, and we expect to continue to generate this awareness. Invited speakers have included Claude Steele, Provost, Columbia University; Meg Urry, Chair, Yale Physics Department, and Director of the Yale Center for Astronomy and Astrophysics; Elizabeth Spelke, Director, Laboratory for Developmental Studies, Harvard University; Lisa Curran, Director, Tropical Resources Institute, Yale University; and Harriet Zuckerman, Senior Vice President, Andrew W. Mellon Foundation.

- **LDEO Divisional Seminar Series / Earth Science Colloquium**: Every week, each division of LDEO has its own divisional seminar, and every Friday there is an Earth Science Colloquium where an invited speaker gives a talk to the whole Observatory. Most of these speakers are (or have been) white males. In the spring of 2010 the LDEO Directorate sent out a report to the Lamont community showing the demographic (gender) composition of the speakers for these seminars and urging the Lamont community to invite more women and minority speakers. Organizers of seminars were also individually contacted and encouraged to invite female and minority speakers.

- **Women in Science Networking Event**: In the spring of 2010 the LDEO Directorate sponsored a networking event for junior women scientists (including postdoctoral scholars and graduate students) at LDEO. Approximately 60 women scientists from 14 institutions in the northeast region of the US attended this event. The goal was for Lamont postdoctoral scholars and graduate students to hear insights and advice from senior women scientists on advancing their careers in a male-dominated field. Given that the research identifies networking as an important factor in keeping women in the pipeline (and a lack of role models as a reason why women leak out of the academic pipeline), the goal of this event was to connect junior women scientists at Lamont with senior women scientists both from Columbia and outside. All participants were given a previously prepared list of topics for discussion, this list based on input from the participants prior to the event. Following the discussion at individual tables, there was a plenary discussion. This event was well received and an event summary was published in EOS (the weekly newspaper of AGU). This is expected to become a biannual event.
o **Excellence in Mentoring Award:** This Lamont-specific award recognizes the importance of quality mentoring, which benefits the institution as a whole. Mentoring has also been identified as a key activity that can contribute to promoting diversity in the sciences. For the 2008-2009 award, there were no female nominees. The LDEO Directorate made efforts to spread awareness on the need to recognize and acknowledge the contribution of our female scientists alongside those of our male scientists. For the 2009-2010 award almost half the nominations received were for female mentors.

V. **Institutional Support and Family Leave Policies:**

As of July 1, 2010 the Lamont Research Professor (LRP) track was implemented at LDEO. Some of the policies developed for this track were made after taking into consideration the results of the earlier mentioned 2005-2006 ADVANCE survey, especially with respect to institutional support and family leave policies. It is pertinent to note here that after ADVANCE provided funds to women scientists for back-up care, Columbia has now institutionalized back-up care, with the Office of Work Life providing assistance to all Columbia officers who need back up care for family members. A lactating room was also set up at the Lamont campus in 2009, the first at Lamont. The Lamont day care center, located close to the Lamont campus has also benefited individuals with young children.

LDEO is a predominantly soft money institution where scientists are expected to raise their own funds to support their research. In such a situation, taking time off for familial responsibilities hinders career advancement in the absence of institutional support. The LRP track is a significant departure from the previous Doherty track and offer benefits that are comparable to faculty positions, some of which directly impact women and junior scientists.

Some of the key benefits of the LRP track include:

- Guaranteed salary for the duration of the appointment: junior scientists receive three-year appointments and senior scientists receive five-year rolling appointments.
- Moving from a twelve-month to a nine-month salary, similar to faculty, allowing the
option to earn summer salary.

• Institutional support for parental leave in addition to institutional salary support: this support covers three additional months over a nine-month term.

• Paid professional leave: based along the lines of a sabbatical, this allows senior staff to receive paid professional leave after they have raised 6 (academic) years of funding.

• Stop-the-clock provisions for family leave: The promotion clock can stopped for one year (up to two times per individual) for new parents.

• Being able to work part-time without losing full-time status: this is especially important for junior women scientists who may be at risk of leaking out of the pipeline.

These policies are especially important since recent research has shown that women tend to bear a disproportionate impact of familial responsibilities. In addition, the biggest leak in the academic pipeline occurs during the postdoctoral years, a pattern confirmed at LDEO. Without institutional support to accommodate these needs, women are less likely to advance in their careers at the same rate as their male counterparts. While it is too early to measure the success of the Lamont Research Professor track in promoting diversity, based on the research on diversity, this track is expected to contribute towards recruiting and retaining women scientists, and addresses many of the concerns identified in the ADVANCE survey. In 2008 the Office of Academic Affairs & Diversity reached out informally to individual women postdoctoral scholars to enquire whether they were inclined to pursue a career at LDEO after completing their postdoctoral research. A large proportion of these women indicated that they were not inclined to do so, the most commonly cited reason being “lack of women-friendly and family-friendly policies”. In 2010 when this office reached out to individual postdoctoral women, a much larger proportion of them indicated that they would consider staying at Lamont, the primary reason cited being the additional benefits and security of the new Lamont Research Professor track. If this is indeed the case we expect to see measurable changes in the number of women scientists at Lamont in the future.

8 “Staying Competitive: Patching America’s Leaky Pipeline in the Sciences”, University of California at Berkeley & Center for American Progress, November 2009.
Concluding Notes

There has been visible, measurable progress since the creation of the Office of Academic Affairs & Diversity, and we hope to expand and sustain these efforts into the future, and continue to spread awareness on the need to diversify our scientific staff. As is often the case with efforts aimed at inculcating a change in the prevalent mode of thinking, perceived credibility plays a role in influencing the ultimate success of various diversity initiatives. With the ownership of many of these efforts resting with the LDEO Directorate the perceived credibility is strong and the general feeling (especially among the junior staff) is that the institution is moving in a positive direction. This office recognizes that diversity issues are inextricably linked with academic affairs, and has accordingly focused on the need to have diversity efforts be woven into decision-making processes that impact academic affairs.

Some of our initiatives have already begun to have an impact. However, we need to keep in mind that for change to be permanent and deep-rooted, efforts need to be applied gradually and consistently over time. Stimulating an institutional cultural shift towards a more open, transparent, and diverse culture cannot be achieved overnight. Slow, constant pressure applied consistently on the leadership over time, and continuous efforts at spreading awareness on social science research on diversity are vital elements needed to bring about the much sought after institutional change. Such efforts will not only promote diversity but will also position LDEO as a leader in institutional transformation, further enhancing LDEO’s leadership position within the scientific community.
Appendix 1

DEES Ph.D. Students by Race and Gender 2005 – 2011

2005
N=88

2008
N=79

2011
N=77