



**Quarterly Report**  
**June 1 - September 1, 2008**  
**NSF Cooperative Agreement SBE-0245014**

**ADVANCE Executive Committee**

Robin Bell, PI and Director

Mark Cane, Co-PI

Patricia Culligan, Co-PI

John Mutter, Co-PI

Stephanie Pfirman, Co-PI

Fredrik Palm, SEAS Assistant Dean for Faculty Development and Diversity

Natasha Novikova, Program Coordinator

## Highlights from Q1 FY2008

- External Advisory Board/Executive Committee Meeting
- Continue to work with 2007-2008 ADVANCE Marie Tharp Fellows
- Change in ADVANCE staff
- Begin Develop Permanent Diversity positions
- Summer Research Life Series at Lamont
- Complete Part III of Science On-line Strategic Careers Series
- Revises and Prepare for Submission of Citations Analysis of AGU Fellows paper

## Project Goals & Management

The mission of the Earth Institute NSF ADVANCE Program at Columbia is to increase the recruitment, retention, and advancement of women scientists and engineers at the University.

The goals of the program are to:

- 1) Change the demographics of the science and engineering community at Columbia through the development of innovative hiring practices and by targeting emerging and established women leaders.
- 2) Cultivate an environment that fosters and attracts women leaders in science and engineering.
- 3) Stimulate institutional cultural change based on behavioral and social science research about gender and race.

Several changes were made to the ADVANCE team in the First Quarter of Fiscal Year 2008.

Stephanie Pfirman began her new role as Interim Associate Dean for Grant Support and Interdisciplinary Initiatives beginning in July 2008. Pfirman will work closely with the New President Deborah Spar and Provost Liz Boylan to develop a long-term institutional home for the ADVANCE type activities. This interim position is will continue through June 2009.

After completing her maternity leave in the spring of 2008, Jennifer Laird worked with the program part-time. On July 1, she left the program to obtain her Ph.D. in Sociology at the University of Washington.

In September 2008, Natasha Novikova joined ADVANCE as the Program Coordinator. Natasha was previously employed as the Training Coordinator at the Columbia University Development and Alumni Relations where she was responsible for launching development and retention training programs. In the ADVANCE Program, Natasha will be working with the ADVANCE program to provide much of the program coordination during the last year of the program. Her work will be complementary to the Associate Director of Diversity at Lamont Doherty, and the Associate Dean for Diversity and Faculty Development at SEAS. Natasha's efforts will focus on the ADVANCE grant specific tasks – administering facets of the ADVANCE Program, NSF reporting, Work Environment Survey, and working with external evaluators.

During the first quarter of 2008, Dr. Kuheli Dutt was offered the position of the Associate Director of Diversity at Lamont. We anticipate Dr. Dutt will begin to work in the middle of October 2008 after the resolution of a visa issue. Kuheli holds a Ph.D. in public policy from Northeastern University. Her

interests lie in the areas of climate change and sustainable development. She experienced in the area of faculty development. At Northeastern University, she organized workshops and programs focusing on issues of diversity on campus, specifically targeting minority groups such as international students and students of color. Kuheli will be working in the Office of the Lamont Director, Dr. Mike Purdy, on the longer-term implementation of ADVANCE programs. Dutt will provide support to LDEO search committees, serve on the LDEO promotion and careers, provide long-term support to the Diversity Lectures and the Research Life Program. Dutt will also work on the research professors initiative, a key program for providing long-term stability to the research scientists at Lamont, where the majority of women scientists reside.

## **Progress Toward Project Goals**

### Changing the Demographics

#### *2007-2008 Marie Tharp Visiting Fellows Continue*

Sonya Dyhrman, Assistant Scientist, Woods Hole Oceanographic Institution, arrived on August 18 and will stay through October. On September 5, Dr. Dyhrman gave a talk at Lamont: "From genes to geochemistry: new stories and enduring mysteries in microbial oceanography." Kathleen Weathers, Senior Scientist, Institute of Ecosystem Studies, extended her visit until the end of December of 2008.

Sponsored by ADVANCE, the fellowship is intended to increase Columbia's awareness of outstanding women scientists. Each of the fellows will spend three months working at the Earth Institute and will receive \$30,000 to support their project. Launched in 2004, the Fellowship is named after Marie Tharp, a former Columbia University scientist who left an indelible mark on the study of oceanography by being the first to map the ocean floor on a global scale.

Feedback from the senior scientists on the Marie Tharp program from our external evaluator group is very positive. This short duration residency program is perceived as a positive contribution to the Lamont research environment. Institutional support to continue this program is strong and should be continued. The visiting fellows are viewed as infusing Lamont with new perspectives as well as exposing the fellows to the innovative work at Lamont and the program is of great benefit in providing expanded opportunities for collaborative research.

We have begun discussion with the Earth Institute management team to secure long-term support for the Marie Tharp Fellows. We have garnered support for one Marie Tharp Fellows next year. This commitment of Earth Institute funds should form the basis for both identifying long-term funding for the program either through re-programming of institutional funds or external fundraising. Our long-term goal is for the Earth Institute to target fundraising opportunities such as in establishing endowment for the Marie Tharp Fellowship.

#### *Institutional Investments in New Women Faculty*

This summer the Earth Institute (EI) at Columbia hired Ruth DeFries, the new Denning Family Professor in the Department of Ecology, Evolution and Environmental Biology (E3B). Her research investigates the relationships between human activities, the land surface, and the biophysical and biogeochemical processes that regulate the Earth's habitability. She is interested in observing land cover

and land use change at regional and global scales with remotely sensed data and exploring the implications for ecological services such as climate regulation, the carbon cycle, and biodiversity. Professor DeFries will divide her time between the Morningside and Lamont campuses.

### Cultivating an Environment that Fosters and Attracts Women

#### *LDEO Research Life Series*

Together with the Lamont Director, ADVANCE successfully launched “The Research Life” 2008 summer series. The goal is to provide an environment where the skills needed to advance in the competitive research environment are discussed in a relatively informal environment. The issues that were addressed ranged from power in academic settings, mentoring to professional development.

June 27<sup>th</sup>: Authorship: Collaboration and Conflict (Attendance: 25)

July 18<sup>th</sup>: “A Scientist’s Guide to Talking With the Media” Media Workshop (Attendance: 75)

July 25<sup>th</sup>: Washington DC & Proposal Writing (Attendance: 15-20)

August 1<sup>st</sup>: PI Responsibilities (Attendance: 15-20)

August 22<sup>nd</sup>: Promotions and Career Advancement (Attendance: 10-15)

#### *Publications*

Science On-line Strategic Careers Series Part III: In the first two articles of this series, we offered tips on maximizing publications and citations (part I), and on collaboration and networking (part II). In the final article of the series, we offer guidance for early career scientists on developing a big-picture research strategy.

AGU Fellows Citation Study for Submission to EOS: Young scientists often ask, what is the best strategy for developing collaborations as they begin to develop their independent research programs. We examined the question of how do successful scientists build their collaborative network by analyzing the publications of 42 AGU Fellows, scientists deemed to be in the top 1% of the scientists who are members of AGU. We have included 17 Macelwane award winners, to examine whether scientists who are very productive at an early career stage have distinct collaborative styles. The Macelwane medal recognizes outstanding young scientists who must be less than 36 years of age at the time of election so these scientists have been unusually productive at an early career stage.

### Stimulating an Institutional Culture Shift

Prof. Caryn Block is continuing to lead a project that is investigating the effects of stereotype threat on women scientists. Her group is currently in the process of coding interview transcripts of the 26 women scientists who participated in the study. Two coders first independently code each transcript. The two coders then meet with one of the primary researchers to resolve disagreements and achieve consensus on what was coded. These final codes are then entered into a database using qualitative data analysis software (NVIVO). They have completed this process for 19 of the interview transcripts, and will complete the remainder by the end of October.

## Looking to the Next Quarter: Upcoming Initiatives and Activities

### 1) Changing the demographics

- *Hiring Dinner:* ADVANCE and the SEAS Associate Dean for Diversity and Faculty Development will sponsor Hiring Dinner focused on Title IX and the application to academics. The evening will be co-sponsored by Vice Provost for Diversity and Faculty Development, Geraldine Downey and the Natural Science departments.
- *Marie Tharp Fellows:* The 2009 Marie Tharp Fellow Solicitation will be developed and circulated. The remaining 2008 Marie Tharp Fellows will be in residence.

### 2) Cultivating an environment that fosters and attracts women leaders:

- *Networking Event:* ADVANCE and the SEAS Associate Dean for Diversity and Faculty Development are hosting a reception for women engineering alumnae and the engineering faculty. ADVANCE will sponsor a networking event on the Lamont campus targeted at strategies for successful fieldwork.

### 3) Stimulating institutional change:

- *Presidential Diversity Lecture:* This year's diversity lecture will be given by Dr. Rita Colwell on October 30, 2008 in Teatro, Casa Italiana. The event is initiated by the Office of the Vice Provost for Diversity Initiatives and is co-sponsored by the ADVANCE program. Dr. Rita Colwell is Distinguished University Professor at both the University of Maryland at College Park and Johns Hopkins University, Bloomberg School of Public Health. She is also Senior Advisor and Chairman Emeritus of Canon US Life Sciences, Inc., and President and CEO of CosmosID, Inc. Her interests are focused on global infectious diseases, water, and health, and she is developing an international network to address emerging infectious diseases and water issues, including safe drinking water for both the developed and developing world. Dr. Colwell served as the eleventh Director of the National Science Foundation (NSF) and has held advisory positions in the U.S. government, nonprofit science policy organizations, private foundations, and in the international scientific research community.
- *Work Environment Survey:* In the Fall of 2008 we will review the Work Environment Survey with the outside evaluators at the Columbia School of Public Health. The goal will be to conduct the survey early in 2009.
- *Documenting Change Model:* Our external advisory committee strongly recommended we dedicate significant time to creating appropriate documentation (reports and articles) that will support the continuation and institutionalization of these efforts in their current units as well as provide templates for how these efforts may be institutionalized in other units in the university. We will provide a template on how to institutionalize the present, three-person-per-university-unit model for implementing diversity initiatives. Essentially, this model consists of a unit's leader (dean, vice president, or director), a faculty steward, and a chief administrator. This model currently exists in the SEAS (Dean, Culligan, and Palm) and LDEO (Director Purdy, Bell/Mutter, and Dutt). An opportunity exists to create a similar model in Barnard College. We will begin working on these efforts in the Fall of 2008.

- *Working with Central Administration* ADVANCE will continue to advise the upper administration of Columbia (i.e., President and Provost) on what institutional diversity goals/aims should be set and how best to achieve them. Pursuing this goal will require supporting data, such as existing statistics on existing faculty/scientists, recruitment efforts, retention, and support mechanisms as well as persuasive documentation on how this would benefit Columbia.