

DIALOG V Program Report

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Background

The Dissertations Initiative for the Advancement of Limnology and Oceanography, DIALOG, is a capstone program to bring together biologically oriented PhDs across the full range of aquatic science (<http://aslo.org/phd.html>). The program is international in scope. Recent PhDs are targeted in order to introduce graduates to the community, catalyze interdisciplinary understanding, enhance early career development and foster collegial interactions. The initiative includes an international **Registry of PhD dissertation abstracts** which is available on-line in a fully searchable format (<http://aslo.org/phd/dialogdcite.html>). An **electronic newsletter** transmits job and other announcements. A capstone **symposium** brings together 40 recent graduates who are selected through a competitive application review process. As part of the process to register their dissertation abstract, graduates are asked to complete a **demographic profile**.

Relevant professional societies have been invited to sponsor and co-sponsor the program, in order to reach graduates across the full range of aquatic sciences. Sponsoring societies take the lead in advertising the program. Announcements are made through society webpages, newsletters, and listserves, and the program is highlighted at national meetings. Co-sponsoring societies advertise the program mainly through their webpage. In addition to society advertising, e-mail announcements and posters are sent to past program participants and U.S. institutions which in the past have granted PhDs to program participants. Community listservs such as the JGOFS list are also used to disseminate program information.

DIALOG is sponsored by the American Society of

Limnology and Oceanography (**ASLO**) and co-sponsored by the American Fisheries Society (**AFS**), American Geophysical Union (**AGU**), Estuarine Research Federation (**ERF**), Ecological Society of America (**ESA**), North American Benthological Society (**NABS**), North American Lake Management Society (**NALMS**), Phycological Society of America (**PSA**), Society of Canadian Limnologists (**SCL**) International Society of Limnology (**SIL**), The Oceanography Society (**TOS**), and Western Society of Naturalists (**WSN**).

DIACES, the Dissertations Symposium for the Advancement of Estuarine, Coastal and Great Lakes Science, was developed to make the symposium more accessible (40 is the maximum number which can be accommodated by any one symposium). **ERF** served as sponsor for **DIACES**, with the other societies including **ASLO** taking a co-sponsoring role.

Ph.D. Dissertation Citations

[Click here](#) to see the Ph.D. Dissertation citations for the 447 DIALOG V participants. Full abstracts are available at <http://aslo.org/phd/dialogdcite.html>

Demographic Information

The DIALOG V Program targeted graduates completing **Ph.D. degrees between January 1, 2001 and March 31, 2003**. These graduates were 0 - 27 months post Ph.D. at the time they completed the demographic survey. A record **447 PhD dissertations were registered** with the program, up from 221 for DIALOG IV. The program is fully international, with 51% of registrants receiving PhDs from US institutions ([Table I](#)) and the rest from abroad ([Table II](#)).

Because the number of participants for any one country is small, most of this report concentrates on the 188 American citizens. In some cases, participants are grouped by region for comparison.

Citizenship: [Figure 1](#) summarizes citizenship by region. The 447 program participants included citizens of 49 countries:

United States (188), Argentina (4), Australia (12), Austria (2), Bangladesh (2), Barbados (1), Belgium (5), Brazil (10), Canada (31), Chile (2), China (5), Columbia (4), Costa Rica (2), Denmark (8), Egypt (1), Finland (2), France (12),

Germany (34), Ghana (1), Guatemala (1), Iceland (1), India (9), Indonesia (2), Ireland (3), Israel (4), Italy (4), Japan (7), Kenya (1), Korea (6), Malaysia (2), Mexico (7), Nepal (1), Netherlands (4), New Zealand (1), Nigeria (1), Norway (2), Portugal (3), Russia (1), Slovenia (1), South Africa (2), Spain (13), Sudan (1), Sweden (10), Switzerland (7), Thailand (1), Turkey (3), United Kingdom (17), Uruguay (2), Venezuela (1), and Zimbabwe (1). Two did not specify citizenship.

Country of PhD. [Figure 2](#) summarizes country of PhD by region. Of the 447 participants, **229 (51%) completed their PhD in the United States.** Of the 229 graduates from U.S. institutions, 179 (78%) were American citizens and the others were from: Australia (1), Barbados (1), Brazil (1), Canada (8), Chile (1), China (4), Costa Rica (2), Denmark (1), Egypt (1), Finland (1), Germany (3), Guatemala (1), Iceland (1), Italy (1), Japan (1), Korea (5), Malaysia (1), Mexico (3), Portugal (1), Spain (2), Sudan (1), Switzerland (2), Thailand (1) Turkey (2) and the United Kingdom (2). Two did not specify citizenship.

Nine American citizens conducted their PhD work outside the U.S: Australia (2), Canada (3), New Zealand (1), Switzerland (1) and the United Kingdom (2).

Gender. Of the 447 participants, 44% were female and 56% were male. The 188 American citizens included 101 (54%) males and 87 (46%) females ([Figure 3](#)). European participants had roughly the same ratio of males to females (49% male, 51% female).

Ethnicity: Of the 181 American DIALOG V participants there were **9%** from **underrepresented minorities:** 11 (6.4%) Hispanic Americans; 4 (2.1%) African Americans; and 1 (0.5%) Native Hawaiian.

The proportion of participants from underrepresented groups is consistent with that among Earth scientists recorded by the National Science Foundation. The National Science Foundation's 2000 Doctoral Awards Report documented 509 US Earth, atmospheric & ocean science degrees to US citizens or permanent residents. Using this base, (their "standard" for reporting ethnicity), they identified 9.4% underrepresented minorities: 36 Hispanic Americans (7.1%); 7 African Americans (1.37%); and 5 American Indians (0.98%).

Disciplinary Specialty. The majority (62%) of the 447 participants indicated their primary area of interest as

oceanography ([Figure 4](#)). American citizens included 122 (65%) oceanographers, 46 limnologists, 14 hydrologists, 3 terrestrial ecologists, 2 global scientists and 1 atmospheric scientist).

Jobs. Graduates tend to register with the program within the first few months post degree, so most are on their first job. Of the 188 American citizens, six (3%) were unemployed ([Figure 5](#)). Most (124, or 66%) were in academia. Of the rest, 32 (17%) were employed by the Federal government, 11 (6%) by the non-profit sector, 10 (5.5%) with state/regional governments, 2 with the military and 2 in the commercial sector. One did not report. A slightly higher percentage of European participants were unemployed (5%) and less than 1% of other participants were unemployed, but the differences were not significant.

Overall, 18% of participants held permanent positions. Of the 182 Americans who were employed, 71% were on postdocs while 17% held permanent or potentially permanent positions. The remaining 12% were in "other temporary" positions (14 persons in academia, 3 with the Federal government, 1 with a state/regional government office, and one on active military duty) ([Figure 6](#)). Two did not report. Among W. Europeans, just 9% were in permanent or potentially permanent positions.

Perceptions of the job market: Participants were asked to rate the job market. Americans seemed quite optimistic, with 87% rating the market as neutral, good or excellent ([Figure 7](#)) and 28% rating it as good or excellent. No gender differences were apparent. Americans appeared to be slightly more optimistic than Western European participants, among whom 80% rated the market as neutral, good or excellent.

Age at Ph.D. Among the 447 participants, the average age at Ph.D. was 32.4 years, with a median of 31.6 and range of 25.0 - 56.8 years ([Figure 8](#)). Among American participants, the average age was 32.7 years with a median of 31.5 years and a range of 25.0 to 56.8 years. The median at time of Ph.D. was 31.9 years for males and 30.4 years for females. Seven Americans and 8 others did not report.

Marriage and children. Overall, 48% of participants were married. **Gender differences were found**, with 40% of females and 53% of males indicating they were married. Less than 3% were divorced or separated. Gender differences were even more apparent among American citizens, with 40% of

females and 59% of males indicating they were married ([Figure 9](#)).

Overall, 25.3% of participants reported they had children, and gender differences were again found: Just 17% of women had children, compared with 33% of males. The same trend was found among American participants, with 11% of women and 30% of men having children. While differences in marital status explain some of the difference (married people are more likely to have children than single people), there were differences even among the married participants ([Figure 10](#)). Among married American men, 43% had children, compared with 29% of married American women. Among American participants, family size was 0.8 children per married male, compared with 0.4 children per married female. Three American females and 9 males did not report on marriage or family.

Some of the difference may be made up with time--women participants were slightly younger than men at the time of Ph.D. (see above), and, for various reasons, women face more pressure than men not to marry or have children in graduate school. In 2002, a follow-up survey of DIALOG I-IV symposium participants was undertaken. This group was 1 - 10 years post Ph.D, compared with 0 - 2 years for the DIALOG V survey. Of these 102 American participants in the DIALOG I - IV symposia (48 female and 54 male), 52% of women and 59% of men reported being married, and 27% of females and 44% of males reported having children.

The NSF report on 2000 graduates documents that the percent of women in Earth, atmospheric and ocean sciences has increased from 22% in 1991 to 30.4% in 2000. Women have historically been attracted to the biological sciences, so it is not surprising that nearly 50% of DIALOG V participants are women. While the increased representation by women is heartening, it is sad to see that women continue to face a penalty when it comes to marriage and children. As Rossi so eloquently stated back in 1965, "Marriage, parenthood and meaningful work are major experiences in the adventure of life. No society can consider that the disadvantages of women have been overcome so long as the pursuit of a career exacts a personal deprivation of marriage and parenthood, or the pursuit of happiness in marriage and family life robs a woman of fulfillment in meaningful work."

Symposia

For the first time there were two symposia during a biennial DIALOG program cycle. **DIACES**, the Dissertations Symposium for the Advancement of Coastal, Estuarine and Great Lakes Science, was held in Oct. 28 - Nov. 2., 2002 in Guanica, Puerto Rico. **DIALOG V** will be held October 19-24, 2003 at the Bermuda Biological Station for Research. The Estuarine Research Federation graciously accepted the invitation to serve as sponsor for DIACES, just as the American Society of Limnology and Oceanography has sponsored DIALOG symposia. DIACES symposium was designed to serve grads working on issues at the land-water interface, including human interactions, while the DIALOG V was designed for grads working across the full range of aquatic habitats, focusing on interdisciplinary research. The eligibility window for PhD completion was 2 years for each symposium. Grads could apply for either or both symposia, but only be accepted to one. A total of 72 applications were received for DIACES, and 146 for DIALOG V. Thanks to the second symposium, the ratio of Ph.D. symposium applications to PhDs registered (49%) was only slightly less than for DIALOG IV (56%). However, since the number of applications were different for the two symposia, DIALOG V will be more competitive.

Because the number of applications is increasing and the quality of applications remains high, funds are currently being sought to continue symposia on an annual basis, rather than on the biennial cycle used for DIALOG I, II, III and IV. Based on a review of applications, the distinction between basic and applied research, which has always been fuzzy, is becoming ever more blurred. Grads are electing to conduct more applied research and/or communicate their findings outside the academic research community so that the work may be of use to educators, managers and policy makers. To best serve the recent grads and the larger community which will depend on the work of these new professionals, the symposia will continue to evolve to meet changing needs.

Program Documents

The DIALOG V symposium will be held October 19-24, 2003. Additional documents are expected.

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Support

DIALOG V was made possible through **U.S. National Science Foundation** (Antarctic Biology and Medicine, Arctic Natural Sciences, Biological Oceanography, Ecology, Ecosystem Studies, and International programs) grant #OCE-0217056 to Whitman College, **National Oceanic and Atmospheric Administration** (Coastal Ocean and National Sea Grant College Programs) grant #16OP1435 to Whitman College and Office of Naval Research (Biological and Chemical Oceanography Program) grant #N00014-98-1-05 to Whitman College with interagency transfers from the **National Aeronautics and Space Administration** (Ocean Biogeochemistry and Atmospheric Chemistry & Ecology Branch of Mission to Planet Earth Programs). The **National**

Oceanic and Atmospheric Administration (Coastal Ocean Program) and the **Inter-American Institute for Climate Change Research** (IAI) supported the DIACES symposium through NOAA Grant #NA160P1435 to Whitman College. The U.S. **Department of Energy** (Office of Science, BER) provided travel support for the DIALOG V symposium through #DE-FG02-03ER63606 to Whitman College