



# ommunicator

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## A Study of Ph.D. Completion at Duke University

By Lewis Siegel, Vice Provost and Dean of the Graduate School, Duke University

Over the past decade, Duke University and many other graduate schools have endeavored to increase support for Ph.D. students and, at the same time, reduce the service demands so that they would have the means to complete coursework and dissertation research in a reasonable period of time. As the amount of institutional support per student increased, it became apparent that a substantial fraction was being devoted to students who withdrew before completing their Ph.D. program, and that more needed to be done to significantly improve the completion rate if we were ever to justify the university resources targeted to the graduate program as opposed to other important needs of the university. In order to begin this process, we undertook a study to determine the rates of Ph.D. completion in each of our programs, using entering cohorts who had had sufficient time to complete the degree in all disciplines. Because Duke's Ph.D. programs are relatively small, we found it necessary to aggregate several years' worth of entering classes, and, in the data to be presented in this paper, to further aggregate the data into broad disciplinary areas of the Graduate School--the humanities, social sciences, biological (including biomedical) sciences, physical (including computational) sciences, and engineering.

Ph.D. cohorts matriculating from Fall 1991 through Fall 1995 were examined for each Duke degree granting program for (1) percent Ph.D. completion (as of Fall 2004), (2) time to withdrawal from the Ph.D. program, and (3) median time to degree. We studied the effect of variables such as undergraduate GPA, GRE scores, race, gender, and

merit fellowship selection on each of these parameters.

### General Findings for the 1991-95 Cohorts

As shown in Table 1, Ph.D. completion rates were highest in the biological sciences (74%), and similar in the humanities, social sciences, physical sciences, and engineering (60-62%). Both the median time to degree (TTD) and time to withdrawal (TTW) were greatest in the humanities (6.7 and 2.7 years, respectively) and social sciences (6.0 and

2.7 years), intermediate in the biological sciences (5.7 and 2.3 years), and shortest in the physical sciences and engineering (about 5.0 and 2.1 years). When individual programs were examined, we found little or no correlation between Ph.D. completion rate and time to degree. There was a substantial variation in the patterns of withdrawal in different programs within the same division (see Figure 1), with several programs, chiefly in the humanities and social sciences, having median

times to withdrawal of 4 to 5 years. It was generally agreed by faculty that attrition after such a long time in the program was to be avoided. We then examined the Ph.D. completion rates in the various disciplines for several variables (Table 2).

**GPA and GRE.** (1) When we compared completion rates for students entering with high GPA (3.7+) vs. low GPA (3.2-), we found that the high GPA group had significantly greater completion in the humanities (65% vs. 54%

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Table 1: COMPLETION AND WITHDRAWAL RATES FOR DUKE UNIVERSITY Ph.D. PROGRAMS

Ph.D. Program	Cohort	No. Matrics.	% Compl.	Median TTD	Median TTW	% Withdrawn in Year		
						1 to 3	4 to 5	6+
<u>HUMANITIES</u>	1991-95	344	61%	6.7	2.7	22%	3%	9%
	1996-99	208				13%	5%	
<u>SOCIAL SCIENCES</u>	1991-95	450	60%	6.0	2.7	22%	5%	9%
	1996-99	284				20%	5%	
<u>BIOLOGICAL SCIENCES</u>	1991-95	471	73%	5.5	2.3	18%	6%	2%
	1996-99	394				19%	6%	
<u>PHYSICAL SCIENCES</u>	1991-95	319	60%	5.0	2.1	30%	8%	3%
	1996-99	249				27%	6%	
<u>ENGINEERING</u>	1991-95	259	60%	4.9	2.1	29%	7%	4%
	1996-99	243				37%	6%	
<u>TOTAL GRADUATE SCHOOL</u>	1991-95	1830	64%	5.7	2.3	24%	6%	6%
	1996-99	1382				23%	6%	

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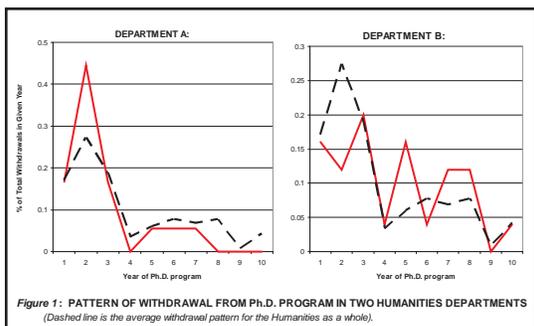
# Ph.D Completion at Duke University

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for the low GPA group) and engineering (67% vs. 54%), but not in the social, biological, or physical sciences. (2) When we compared completion rates for students entering with high GRE-Verbal (710+) vs. low GRE-Verbal (590-), we found significantly greater completion only in the

humanities (62% vs. 54%). Curiously, completion was much greater for the low GRE-Verbal group in both the

social sciences (64% vs. 54% for the high GRE group) and biological sciences (65% vs. 75%). Completion was about 60% for both groups in the physical sciences and engineering. (3) When we compared completion rates for students with high GRE-Quantitative (710+) vs. low GRE-Quantitative (590-), we found significantly higher completion only in the humanities (69% vs. 59%)--an area in which the GRE-Q plays little or no role in the selection of students to be admitted. There were no significant differences in the social and biological sciences, and there were too few students in the low GRE-Q group in the physical sciences and engineering to make any conclusions.



by departments. Generally, these applications tend to fall in the lower GRE and sometimes lower GPA group, as is the case nationally. Again, the faculty must choose awardees (usually about 40 to 50% of those nominated) whom it judges to be the most likely to succeed at Ph.D. study based on criteria in the application other than the quantitative scores. The African-American students who matriculate at Duke also receive a tremendous amount of support from our Office of Graduate Student Affairs and through participation in a number of university-wide student groups. We were pleased to find that these carefully selected and nurtured African-American students completed at significantly higher rates than the general population in all fields other than the physical sciences and engineering (where there were, unfortunately, very few African-American matriculants). In two fields, the social and biological sciences, the African-American students completed at higher rates than even the James B. Duke fellows. The median time to degree was not significantly different for African-Americans than the general population in each broad disciplinary group. The time to withdrawal, however was much higher for those African Americans than the general population who did not complete in both the humanities (4.5 vs. 2.7 years) and the biological sciences (5.7 vs. 2.3 years).

Table 2: COMPLETION RATES FOR Ph.D. PROGRAM (1991-95 Matriculants)

Type of Matriculant	Human	Soc Sci	Biol Sci	Phys Sci	Eng'g	Grad Sch
All matriculants	61%	62%	73%	60%	60%	64%
Low GPA (3.2-)	54%	65%	75%	64%	54%	63%
High GPA (3.7+)	65%	56%	71%	63%	67%	64%
Low GRE-V (590-)	54%	64%	75%	60%	60%	64%
High GRE-V (710+)	62%	54%	65%	58%	60%	60%
Low GRE-Q (590-)	59%	60%	69%	---	---	63%
High GRE-Q (710+)	69%	60%	72%	59%	60%	64%
J.B. Duke Fellows	76%	61%	78%	72%	66%	73%
African-American	70%	75%	83%	22%	25%	64%
Males	67%	58%	76%	60%	60%	65%
Females	56%	64%	67%	60%	59%	62%

These results indicated to us that faculty are indeed capable of picking students who are more likely to complete than the general population if only they are required to carefully consider all aspects of the student's application, not just the quantitative scores and grades.

**Gender.** We found significantly higher completion rates for males than females in the humanities (67% vs. 56%) and biological sciences (76% vs. 67%). Both

**James B. Duke Fellows.** At Duke, each department nominates the best of its Ph.D. applicants for a James B. Duke merit fellowship, which provides a \$4,000 supplement in each of the first four years to anything else that is offered. Committees of faculty from each division of the Graduate School choose who they judge to be the best of the nominated applicants to be offered the J.B. Duke fellowship. (The number of awards is normally about 2% of the total applicant pool.) Since all of these nominees are generally in the high GPA, high GRE group, the faculty must select awardees on the basis of other criteria in the application file (e.g., past research experience, statement of purpose, writing samples, letters of recommendation, etc.). Our data show that in each broad disciplinary field, with the exception, again, of the social sciences, the James B. Duke fellows complete at higher rates than the high GPA, high GRE group as a whole. This suggested to us that faculty, by carefully reading and evaluating the entire application, can identify students who are more likely to complete Ph.D. study than others with the same quantitative credentials.

**African-Americans.** For nearly two decades, Duke has had a program of fellowships (which combine two years free of service with four years of summer support) that are offered to the best minority applicants as selected by a faculty committee from nominations made

by departments. Generally, these applications tend to fall in the lower GRE and sometimes lower GPA group, as is the case nationally. Again, the faculty must choose awardees (usually about 40 to 50% of those nominated) whom it judges to be the most likely to succeed at Ph.D. study based on criteria in the application other than the quantitative scores. The African-American students who matriculate at Duke also receive a tremendous amount of support from our Office of Graduate Student Affairs and through participation in a number of university-wide student groups. We were pleased to find that these carefully selected and nurtured African-American students completed at significantly higher rates than the general population in all fields other than the physical sciences and engineering (where there were, unfortunately, very few African-American matriculants). In two fields, the social and biological sciences, the African-American students completed at higher rates than even the James B. Duke fellows. The median time to degree was not significantly different for African-Americans than the general population in each broad disciplinary group. The time to withdrawal, however was much higher for those African Americans than the general population who did not complete in both the humanities (4.5 vs. 2.7 years) and the biological sciences (5.7 vs. 2.3 years).

genders completed at about 60% in the physical sciences and engineering. (The results in the social sciences are anomalous, in that the completion rate is higher for females (64%) than males (58%), but we believe this result to be an artifact due to the fact that the social science discipline with the highest completion rate, psychology, has the greatest proportion of females, while the one with the lowest completion rate, economics, is predominately male. Within these disciplines, there is no significant gender difference in completion.) Although there are clearly discipline-specific effects, Table 2 shows that, for the Graduate School as a whole, there was no significant effect of high vs. low GPA, GRE-V, GRE-Q, race, or gender on the rate of Ph.D. completion. The James B. Duke fellows selected on merit by the faculty, however, completed at significantly greater rates than the general population (73% vs. 64%).

### Changes in Duke's Graduate Programs Introduced in 1995 or Later

Beginning in 1995, Duke's Graduate School actively worked to introduce changes in departmental and school practices with an eye to improving both the quality of admitted students and the rate of Ph.D. completion. These changes fall into three broad areas:

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# DATA SOURCES: Comparing Graduate Education In the US and Canada: Evidence From Recent Research

By Heath Brown, Director of Research and Policy Analysis

## Introduction

The Data Sources article in the *Communicator* often reports on information from the CGS/GRE Survey of Graduate Enrollment and Degrees. This survey reflects the enrollment and degrees of nearly all of the US members of CGS as well as several non-CGS members that are located in the US. For those non-US members of CGS, particularly those in Canada, other data sources can illuminate similarities and differences in graduate education trends. A recent report from the Canadian Association of Graduate Schools (CAGS), Statistical Report 1990-2001, provides an in-depth examination of enrollment and degree trends in Canada. As an ongoing partner of CGS, comparisons of graduate trends between members of the two organizations are particularly interesting. In an environment of increasing internationalization of graduate education, it is increasingly useful to compare enrollment and degree trends across national boundaries.

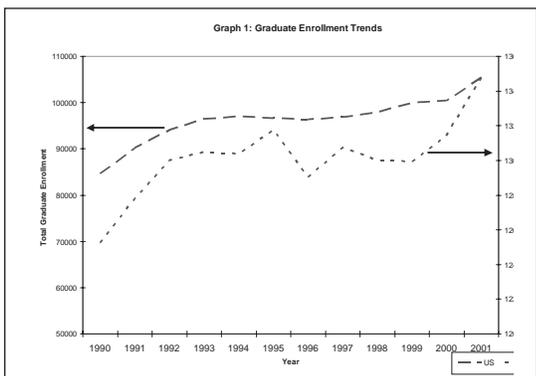
## Notes on Data

Statistics Canada provided CAGS with the data for their report on graduate trends in Canada. The report is based on data reported by Canadian institutions over the period from 1990-2001. In most cases those data are comparable to those collected annually by the CGS Survey of Graduate Enrollment and Degrees. For example, CAGS defines "non-Canadian" or international students as all students who are not Canadian citizens. This provides a clean comparison with the definition of international students used by CGS. One difference is that, by law, Statistics Canada does not collect data by ethnic group. Certain discipline or field categories are also reported in different ways in the CAGS report; this was addressed by regrouping the disciplines into categories that were roughly comparable. Overall, there is ample room to compare the overall trends in graduate enrollment and degrees between the two countries.

## Total Graduate Enrollment

Graduate education has been growing steadily in both the US and Canada. Graph 1 compares the growth between the two countries over a recent ten-year period. Because the overall size of graduate education is much larger in the US than in Canada, the trend line for the US refers to the right axis, and the trend line for Canada refers to the left axis. The general pattern is consistent between the two countries. Graduate education has been growing over this period in both countries, though sharper and somewhat more irregularly in the US than in Canada.

In Canada, there were 105,365 graduate students enrolled in 2001,



up 4.9 percent from 2000. This growth was driven by a 5.6 percent increase in master's enrollment and a 2.9 percent increase in doctorate enrollment. The increase was the largest increase since 1991 when

there was a 6.5 percent increase in graduate enrollment.

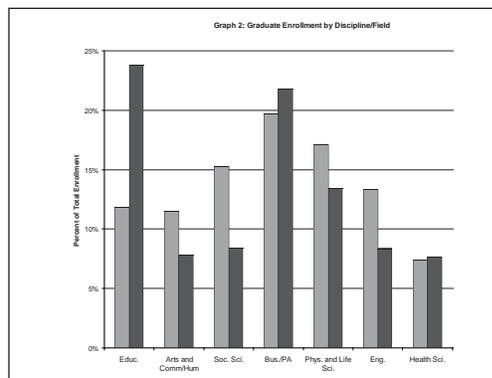
In the most recent CGS report, total graduate enrollment in the US was 1.4 million, a 7 percent increase over the previous year (note: until this coming year, CGS has not disaggregated graduate enrollment by masters/doctorate). Graduate enrollment has increased, on average, around 2 percent between 1986 and today.

## Graduate Degrees Conferred

In 2000, Canadian institutions conferred 23,910 master's degrees, and 3,660 Ph.D. degrees. The number of master's degrees has been on the rise for the last several years, growing between 2.5 and 6.3 percent. Doctoral degrees however have been quite steady, barely growing a single percent over the last four years. In the US, master's degrees have also been on the rise. Between 2001 and 2002, the number of master's degrees conferred grew 2 percent and the average annual growth has been 3 percent over the last fifteen years. Doctoral degrees are not growing at as fast a pace. In fact, between 2001 and 2002, doctoral production was down 2 percent and has grown only 1 percent on average between 1986 and 2002.

## Graduate Enrollment by Discipline/Field

The largest fields in Canada for graduate education are business/public administration (20,820), social sciences (16,135), and engineering/architecture (14,065). In the US, the largest fields are education (290,383), business (216,381), and physical sciences (104,113).



the US, nearly 25 percent of graduate enrollment is in education, with Canada at only 11 percent. In the social sciences, Canada has a much larger percentage of graduate enrollment in that field than in the US (See Graph 2). In the

rest of the fields, the two countries enroll similar percentages of students. Both countries have seen considerable growth in engineering programs: the US saw a 10 percent increase in 2002 and Canada realized a 13 percent increase in 2001.

## Graduate Enrollment by Sex

The top three fields for women in Canada are social sciences, business/public administration, and education, each with around 9,000 women students. In the US, 214,108 women were enrolled in graduate programs in education, while around 120,000 were enrolled in business and public administration programs. In the US, education is by far the largest field for women with about twice the enrollment of any other field and a quarter of total graduate enrollments of women. Interestingly, the distribution within education is quite similar between the US and Canada. In Canada, seventy-two percent of graduate enrollment in education is from women; in the US this figure is 74 percent.

Both countries have similar problems with the underrepresentation of women in the sciences and engineering. In STEM fields, the distribution of

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## CGS Welcomes New Director of Government Relations

In December, Debra Stewart announced Patricia (Patty) McAllister had been named the Council of Graduate School's Director of Government Relations and Public Affairs.

The announcement completes a year-long process to enhance the role of graduate education in both federal policy and the nation's high-skilled workforce. In making the announcement, Stewart said, "Over a year ago, we began the research and design of a government relations strategy appropriate for graduate education's increased importance in a knowledge-based global economy. I am delighted that Patty McAllister has agreed to provide the leadership essential for the nation's continued preeminence in our traditional fields of science, engineering, the arts, and humanities. Her experience also provides the foundation for us to become a major contributor to the increased role of workforce development in economic success."

As CGS's new government relations director, McAllister will be responsible for designing and implementing the public policy strategies in support of graduate education. Among the most important issues facing graduate education today are the development of a domestic talent pool for academic leadership, the challenges for international students following September 11th, the re-authorization of the Higher Education Act, and the articulation of an appropriate role for graduate education in workforce investment.



Ms. McAllister comes to CGS from the Educational Testing Service (ETS) where she directed both federal and state relations and public affairs. She holds a B.A. in political science from Albertus Magnus College and a master's degree in Public Administration from The American University. McAllister has authored articles on a variety of testing policies, conducted studies for various federal and state agencies, and is highly respected in all sectors of the government and among both political parties.

In accepting the appointment, McAllister focused on the changing role of graduate education in America's future. "All of my experience in education policy has convinced me the key to America remaining a global leader rests with our ability to maintain the quality of our scholarship, research and innovation. We now recognize that life-long learning is essential for all of America's professionals, and graduate education must provide the access and leadership to keep our competitive edge. I look forward to working with America's academic leaders and our most dedicated public servants to design and implement appropriate strategies."

Immediate issues that Ms. McAllister will focus on include Reauthorization of the Higher Education Act (HEA) and CGS's upcoming conference on Graduate Education and American Competitiveness that will be held on March 9 at the Library of Congress.

## Data Sources

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men and women is similar in the US and Canada. In engineering programs, women make up 25 percent of enrollment in Canada, and 20 percent in the US. In the physical and life sciences, women make up 44 percent of graduate enrollment in Canada, while in the US women make up 33 percent of enrollment in physical sciences and 52 percent in the biological sciences.

### International Graduate Enrollment

International graduate students make up a large part of graduate education in both countries. In Canada, 26 percent of graduate enrollment is from non-Canadians, compared to 17 percent international enrollment in the US. In both countries the largest fields for international students are business, engineering, and the sciences. In engineering, roughly half of graduate enrollment in both countries (51% in Canada and 51% in the US) is foreign born. In the field of business, international students make up 17 percent of graduate enrollment in the US and 28 percent in Canada.

These comparisons are intriguing because of the different experiences each country has had over the last year. US graduate schools saw notable declines in applications and enrollment over the last year (See *Communicator*, December 2004). In a short survey of Canadian graduate schools, the opposite occurred (See *Survey of International Graduate Students in Canadian University 2004*). Applications increased noticeably at all of the institutions that responded to the survey. This resulted in international enrollment at responding

Canadian graduate schools growing 19 percent from 2002-03 to 2003-04. While there is no clear evidence that Canada is the direct beneficiary of downturns in applications to US institutions, the differences between the two countries are striking and worthy of future research.

### Discussion

During this past year, international student flows and the internationalization of graduate education have become critical issues to many CGS members. Rather than viewing these issues from a solely US perspective, insight can be gained by observing institutions in other countries. The Canadian members of CGS are active participants in CGS activities, attend annual meetings, and summer workshops. There is a great potential to better address the changing patterns of international graduate education through a comparative approach, the sharing of data, and collaboration on best practices.

What we see from these comparisons is that Canadian and US institutions have much in common. Both countries have experienced sustained growth over the last decade and both countries have been the beneficiaries of in-flows of international students. Unfortunately, the under-representation of women in certain fields is a problem that both countries share.

In light of the major changes taking place in Europe and future changes in other parts of the world, it is imperative that graduate schools in the US actively engage institutions across the world. From one perspective this could be viewed as realizing that competition now has an international dimension; from another, there may be more to be gained for global graduate education by viewing these changes as opportunities for collaboration and the expansion of best practices.

## Highlights of the CGS 2004 Annual Meeting

The CGS 44th Annual Meeting was held December 8 through 11 at the Marriott Wardman Park Hotel in Washington, DC. The meeting featured all the elements of a successful professional conference: stimulating plenaries, timely breakout sessions, high-energy receptions, awards, plenty of food, and a great location. These provided an outstanding opportunity for more than 550 meeting attendees to converge in Washington, DC and engage in lively discourse and networking, all in the best interests of graduate education.

CGS offered attendees a rich program. Nine pre-meeting workshops engaged nearly 200 participants and addressed program review, legal issues, enrollment management, research integrity, setting expectations and resolving conflicts, use of technology, data management, and building career services resources. The meeting started off with the traditional



Opening Reception and Dinner hosted by Debra W. Stewart, President, and Lewis Siegel, Chair of the Board of Directors.

Six plenary sessions made important contributions to the meeting theme. In the first plenary, Professor Allan Lichtman of American University presented his approach to forecasting election results. He suggested that the next four years will be dominated by deficit reduction, social security, and tax reform. He also projected that the result of the just-completed election would be a highly competitive funding environment for higher education in general, and for graduate education in particular. In order to promote graduate education, he recommended finding areas of common interest between graduate education and Administration priorities such as job creation, technology, and bio-terrorism.

The second plenary featured The Honorable Rush Holt, U.S. Representative from New Jersey. He provided an overview of the Administration's priorities of national security and terrorism, expansion of the "No Child Left Behind" program, and reforms of social programs. Congressman Holt commented on the value of international students and recommended an extension of the Visas Mantis program for the duration of study, clearer protocols for security reviews, and other reforms targeted at improving international student flows. He also related somber news about NSF funding in the recent budget deal and called for a long term national commitment to graduate education.

Plenary III, titled "Transformations in Graduate Education: A Transatlantic Dialogue," featured Dr. Lesley Wilson, Secretary General of the European University Association. Dr. Wilson reviewed the history, current state, and projected timeline of the Bologna Process for creating a common European Union system of higher education. She delineated issues that intersect with U.S. graduate education, as the agenda for further dialogue

between the U.S. graduate community and its European counterparts.

For the fourth plenary session, attendees had the privilege of hearing Dr. Freeman Hrabowski, President of the University



of Maryland, Baltimore County, address the topic of "Overcoming Diversity Fatigue." Dr. Hrabowski spoke movingly of his own experience as a minority graduate student and his efforts to build programs both at his institution and nationally that encourage minor-

ity students to aspire to and help them succeed in college, graduate education, and the professoriate. He used his experience to demonstrate that the issue of diversity requires dedicated long-term commitment, with strategies that change to meet new challenges as they arise.

In the fifth plenary, Steve Gunderson, former U.S. Representative from Wisconsin, currently with the Greystone Group, described his role as consultant in developing a CGS strategic plan for a new Federal Relations Initiative designed to position CGS as the "Voice of Graduate Education" and to serve as a resource to Federal policy makers and agencies. He presented the strategic plan endorsed by the CGS Board and offered recommendations on implementing the plan, beginning in January 2005 with the arrival of Patty McAllister, who was introduced as the new CGS Director of Government Relations and Public Affairs.

The sixth and final plenary was a broad-ranging discussion on "The New Interdisciplinary Reality," presented by three CGS deans: Joe Hellige from the University of Southern California; Sally Francis, Oregon State University; and Priscilla Kimboko, Grand Valley State University. Dean Hellige presented several examples of interdisciplinary research centers at USC that provide an opportunity for faculty and students to engage in interdisciplinary graduate education. Sally Francis described her efforts to develop new institutional policies and procedures for administering interdisciplinary graduate programs. Dean Kimboko described her perspective as a student and teacher/scholar in several interdisciplinary areas spanning many years, and her recent work in promoting interdisciplinary Professional Science Master's (PSM) programs at a master's-focused institution, taking advantage of a confluence of state and institutional initiatives, faculty interest and strength in related research areas, and CGS/Sloan PSM planning and implementation grants for three bioscience programs.

The plenary sessions were well complemented by 16 concurrent sessions on an extensive array of topics, including the NRC Research Doctoral Study; professional doctoral programs; graduate student funding; and measuring doctoral attrition and completion. The entire meeting program may be found on the CGS website at

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## Ph.D Completion at Duke University

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**Better Informed Selection.** We urged departments to reduce emphasis on GRE scores and GPAs in selecting students to be admitted and to focus much more on demonstrated research experience. The Graduate School put data on placement, time to degree, and completion rate for each Duke Ph.D. program on the Web, so that students considering studying for the Ph.D. would know what they are getting into. Departments were strongly encouraged to interview students before admitting them, through campus visits, if possible, or by telephone with international students. We asked that applicants and department exchange information during these visits to learn whether or not there would be a good "fit" between student interests and what the program has to offer, rather than just trying to "sell" the program to the student.

**Improved Program.** We made a strong investment in student services, such as subsidizing child care for Ph.D. students, in order to make it possible for them to complete their programs in a timely fashion. We instituted field-specific symposia and workshops to introduce a variety of potential career options to our Ph.D. students. We introduced Graduate School workshops in pedagogy and uses of instructional technology, expanded our Pathways to the Professoriate program, and required departments to develop career-appropriate structured teaching experiences for their graduate teaching assistants. Finally, we brought together faculty and student representatives to create a "Best Practices" chart of expectations for the faculty, the students, and the Graduate School, which we distribute to and encourage use by each entering class of students.

**Student Funding.** Perhaps the most significant change, however, was in the area of financial support for graduate students. We instituted a guarantee (in the form of a backstop if good-faith efforts were made to secure external funding where available) of 5 to 6 years of funding for all Ph.D. students in arts and sciences disciplines. (Generally support is to the degree in the sciences and engineering.) We greatly reduced student teaching loads (no more than one course or section per semester) and increased the number of years of fellowship support in virtually all programs. We made summer research support available, on a guaranteed or competitive basis, in nearly all disciplines. We funded competitive fellowships to support capstone teaching experiences in which senior Ph.D. students can give courses of their own design to undergraduates.

In order to see that university funds were directed to programs where they could be used most effectively to support quality in graduate education, we began to allocate budgets for Ph.D. student support to departments based solely on graduate education parameters (e.g., completion rate, student quality as attested by award of competitive merit fellowships, number of faculty chairing dissertation committees) rather than teaching and/or research service needs. At the same time, we made sure to reward departments that obtain external support for graduate students, in fields where this is available, by increasing rather than decreasing the university allocation to them. We began the practice of reviewing and awarding graduate awards budgets for three-year periods to permit departments to buffer variations in yield, and, as an incentive to manage funds wisely, permitted departments to carry over any surplus funds from those budgeted into the next 3-

year cycle.

### Effect of Post-1995 Graduate Program Changes on Subsequent Entering Cohorts

Because in many fields, there were still a significant number of students entering between Fall 1996 and Fall 1999 who had not yet either withdrawn or completed the Ph.D. program, we focused on the rate of attrition (withdrawal) in the first 5 years rather than full completion.

We then compared withdrawal rates in the first 5 years of the Fall 1996-99 vs. Fall 1991-95 cohorts. We found significant reductions in 5-year attrition in those disciplines where the previous teaching service requirements had been greatest. In the humanities as a whole, the 5-year withdrawal rate was reduced from 25% to 18%. (Table 1). The effect was particularly notable in language and literature departments e.g., romance studies (from 36% to 23%), German (from 43% to 27%), and English (from 24% to 19%). Although there was little overall effect in the social, biological, and physical sciences as a whole, 5-year withdrawal was significantly reduced, again, in disciplines where the high teaching service requirements were significantly reduced, e.g., cultural anthropology (33% to 7%), chemistry (34% to 25%), and mathematics (40% to 32%). In the few disciplines which did not participate in the new pattern of student funding, but instead operated as "tubs on their own bottoms," the 5-year withdrawal rate, already quite high, did not improve (e.g., economics, 45% in both cohorts), or actually got worse (e.g., engineering 36% in the early cohort vs. 43% in the later one). Although we have by no means done a controlled experiment, these results suggest that it is possible to make improvements in graduate programs, particularly with respect to funding and service requirements, that lead to decreased attrition from Ph.D. programs.

### Improving Ph.D. Completion-A Work in Progress

Although we believe that it is possible to improve the current rates of Ph.D. completion in many programs through interventions such as those described above, it will probably never be possible to perfectly select students who will successfully complete the Ph.D. in a particular unit or school. Although the new types of GRE General Test exams that will be introduced in Fall 2006 might well (we hope!) be better for selecting Ph.D. students who can complete the degree program than the current ones, it is clear that there are many non-cognitive factors, such as motivation, persistence, luck, etc., that play an important part in determining the outcome of Ph.D. study. Yet our data show that faculty, when they carefully consider the entire application--not just discard or approve applications based on test scores or grades--can identify students more likely to complete than others. We also know that some tests that could be used more effectively in selecting Ph.D. students who can complete, e.g., the GRE Subject tests, are not utilized at all in many programs.

We believe that it is axiomatic that transparency can only help matters. Students need as much honest information as possible to decide whether or not the long and challenging road to a Ph.D., with, in some cases, an uncertain type of career outcome, is right for them. Both faculty and student need to determine whether the "fit" between student and the department, with respect to faculty interest, program

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## Annual Meeting Success

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[www.cgsnet.org/Meetings](http://www.cgsnet.org/Meetings).

Other highlights of the meeting included two special luncheons--the Awards Luncheon and the LaPidus Luncheon. A highlight of the Awards Luncheon was the announcement by President Debra W. Stewart and Peterson's Mary Gatsch that the recipient of the CGS/Peterson's Award for Innovation in Promoting an Inclusive Graduate Community was Arizona State University. Dr. Maria Allison, Vice Provost and Dean of the Division of Graduate Studies, and Dr. Marjorie Zatz, Associate Dean at the university, accepted the award. Also announced was the increase in the award from \$10,000 to \$20,000, beginning in 2005. The CGS/UMI Distinguished Dissertation Award Winners, Dr. Eric Todd Brown (Mathematics, Physical Sciences and Engineering) and Dr. Pedro C. Magalhaes (Social Sciences) were also presented, with Bill Savage of ProQuest/UMI Dissertations Publishing on hand. Also at the lunch, Nancy Bradley Warren accepted the 2004 CGS Gustave O. Art Award in the Humanities. Later that evening, Thomson Peterson's sponsored an elegant reception honoring the "Promoting an Inclusive Graduate Community" award recipient, Arizona State University.

Exhibitors for the meeting were Academic Management Systems; All Star Directories; ApplyYourself; Azusa Pacific University; CollegeNet; Educational Testing Service; GradSchools.com; Graduateschools.com; IELTS International; National Opinion Research Center - University of Chicago; ProQuest/UMI Dissertations Publishing; Thomson Peterson's; TIAA-CREF; World Education Services and Yardley Research

Group. Several exhibitors added a special touch to the meeting. TIAA-CREF provided one-on-one counseling sessions during the meeting, and GradSchools.com set up a computer center that provided access for conferees to their email during the conference. ProQuest/UMI hosted its ever-popular Friday evening reception, having earlier in the meeting provided notepads for all participants.

Breakfasts and refreshment breaks were well appreciated by the meeting attendees. Sponsors for these events were Catholic University; Christopher Newport University; Clemson University; College of William & Mary; Duquesne University; George Mason University; James Madison University; Longwood University; Mary Baldwin College; Morgan State University; Old Dominion University; Radford University; Towson University; University of Maryland at College Park; University of Maryland Baltimore County; University of North Carolina, Chapel Hill; University of Pennsylvania; University of Virginia; Virginia Commonwealth University; Virginia Tech University; Wake Forest University.

At the Saturday morning business meeting, Debra W. Stewart addressed the challenges ahead in graduate education. Suzanne Ortega accepted the role as Chair of the Board of Directors for the coming year. Richard Wheeler will serve as Chair-elect of the Board.

It's not too early to plan for the 2005 Annual Meeting, CGS' 45th--which will be held December 7 - 10, 2005, at the Hyatt Regency, New Orleans. Mark your calendar! ❖

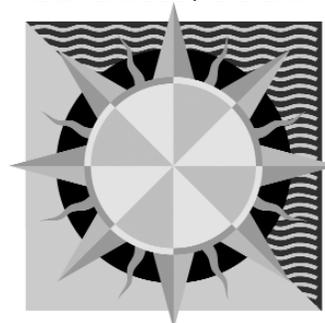
### Ph.D Completion at Duke University

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of study, and cultural environment, is right; and if it is not, then the student, on visiting, should be directed to other universities that might be more suitable for them.

Finally, there is general agreement that, given the large financial investment that a university such as Duke usually makes in each new Ph.D. matriculant, it is important that students be selected who have the best likelihood of completing the Ph.D. program with a high quality dissertation. However, given the large number of factors that come into play during the long road to a Ph.D., some attrition is inevitable. What, then, is an "acceptable" level of completion? Also, when we introduce what we hope are improvements in our graduate programs, how, given the long time it takes to get a Ph.D., will we be able to determine that any such "improvement" is actually having an effect? These are difficult, perhaps impossible, questions to answer, but the work must begin somewhere.

### Council of Graduate Schools SUMMER WORKSHOP



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## CGS Congratulates Recent Award Winners

### ARLT AWARD WINNER

Nancy Bradley Warren was selected as the winner of the 2004 CGS Gustave O. Arlt Award in the Humanities for her book, *Spiritual Economies: Female Monasticism in Later Medieval England* (University of Pennsylvania Press, 2001). She accepted the honor at the Awards Luncheon at the 2004 Annual Meeting.



Dr. Warren is an assistant professor in the English Department of Florida State University. She received her doctorate from Indiana

University. Her work examines the lives of cloistered nuns in 14th and 15th century England and demonstrates "their complex role . . . in diverse systems of production and exchange."

The finalists in the competition were Chadwick Allen (Ohio State University) for *Blood Narrative: Indigenous Identity in American Indian and Maori Literary and Activist Texts* (Duke University Press, 2002) and Susan Mary Ryan (University of Louisville) for *The Grammar of Good Intentions* (Cornell University Press, 2003).

### CGS/UMI Dissertation Award Winners

The winners of the 2004 CGS/UMI ProQuest Distinguished Dissertation Awards were honored at a luncheon on



December 9 at the CGS Annual Meeting.

Dr. Eric Todd Brown, a 2004 Princeton University graduate, won the award in the field of Mathematics, Physical Sciences and Engineering. Brown's dissertation, *Neural Oscillators and Integration in the Dynamics of Decision Tasks*, bridges three disciplines: applied mathematics, neuroscience, and cognitive psychology. At present, he is a post-doctoral fellow at the Courant Institute of Mathematical Sciences at New York University.

The winner in the Social Sciences is Dr. Pedro C. Magalhaes, who received his doctorate from Ohio State University. *The Limits to Judicialization: Legislative Politics and Constitutional Review in the Iberian Democracies* compares the judiciary in the previous authoritarian regimes and their role as policymakers in the

democratization of Spain and Portugal. Magalhaes is a researcher with the Institute of Social Sciences of the



University of Lisbon.

From the 35 nominations in the fields of Mathematics, Physical Sciences and Engineering, honored as finalists were Ilan Ben-Yaacov (University of California, Santa Barbara), Benjamin Stovall Cramer (Rutgers University), Timothy Owen Drews (University of Illinois-Urbana Champaign), and Chad D. Fertig (Yale University). The finalists in the Social Sciences category, for which 48 nominations were received, were Debra Lyn Lieberman (University of California, Santa Barbara), Crickette Marie Sanz (Washington University in St. Louis) and Eric Andrew Verhoogen (University of California, Berkeley).

### CGS/Peterson's Award Winner

Arizona State University has been selected as the recipient of the 2004 CGS/Peterson's Award for Innovation in Creating an Inclusive Graduate Community. Dr. Maria Allison, Vice Provost and Dean of the Division of Graduate Studies at ASU, and Dr. Marjorie Zatz, Associate Dean, accepted the award of the \$10,000 grant at the awards luncheon on December 9 at the annual meeting.

The winning grant proposal, titled "Pathways to Success: An Undergraduate-Graduate Collaboration," is a recruitment and retention tool which targets the university's undergraduate talent pool, particularly in STEM areas. The project was developed by the Division of Graduate Studies in collaboration with the Barrett Honors College and the Office of Undergraduate Initiatives.



## Ortega Becomes Chair of 2005 Board of Directors

Suzanne Ortega, Vice Provost for Advanced Studies and Dean of the Graduate School at the University of Missouri - Columbia (MU) has been named chair of the Board of Directors of CGS. She completed her master's and doctoral degrees in sociology at Vanderbilt University and, before coming to MU, spent 20 years on the faculty at the University of Nebraska - Lincoln. Dr. Ortega's research focuses primarily on the mental health consequences of systems of inequality. She is the author or co-author of numerous journal articles and an introductory sociology text, now in its 6th edition.

An award-winning teacher, Ortega has served on review panels for NSF and NIH and has been the principal investigator or co-investigator on grants totaling more than \$6 million in state and federal funds. Among her most important accomplishments are the work she has done to secure funding for and to develop successful Ronald E. McNair Postbaccalaureate Degree, Preparing Future Faculty, Diversity Enhancement, Ph.D. Completion, and Responsible Conduct of Research programs. In 2001, some of these efforts were recognized through MU's receipt of the CGS/Peterson's Award for Innovations in Promoting an Inclusive Graduate Community.

Dr. Ortega is active in a number of professional associations. In addition to serving on the editorial boards of several journals, she has been a member of the American Sociological Association (ASA) Advisory Board for Preparing Future Faculty, the ASA Executive Office and Budget committee and on the Executive Boards of the NASULGC Council on Research Policy and Graduate Education, Graduate Record Exam, and Council of Graduate Schools. She is the immediate past-chair of the Midwest Association of Graduate Schools.

## Wheeler Becomes Chair-Elect of 2005 Board of Directors

Richard Wheeler received his B.A. in English from Cornell College (IA) in 1965, and his M.A. (1967) and Ph.D. (1970) in English from the State University of Buffalo. He joined the Department of English at the University of Illinois at Urbana-Champaign in 1969 and has been on the Illinois faculty ever since. His publications include *Shakespeare's Development and the Problem Comedies: Turn and Counter-Turn* (U of California P, 1981), *The Whole Journey: Shakespeare's Power of Development* (co-authored, U of California P, 1986), *Creating Elizabethan Tragedy*, ed. (U of Chicago P, 1988), *Critical Essays on Shakespeare's Measure for Measure*, ed. (G. K. Hall, 1999), and articles on Shakespeare, Elizabethan drama, literary theory, and modern British literature. (*Shakespeare Quarterly*). His scholarship has been centrally concerned with identifying key psychological patterns that shape the development of Shakespeare's work and, more recently, plausible links between the plays and the life of their author.

From 1987 to 1997 he was Head of the Department of English at Illinois, and in 1999-2000 he was Acting Head of the Department of Anthropology. He became Dean of the Graduate College in 2000. He has been active in the Shakespeare Association of America and the Modern Language Association as well as, more recently, national and regional graduate school associations. He currently serves as chair of the Executive Committee of the Midwest Association of Graduate Schools and chair of the graduate deans group of the Committee for Institutional Cooperation (Big Ten universities plus U of Chicago). For CGS, he has served on and chaired the selection committee for the CGS/UMI prize for best dissertation in the humanities and fine arts, the selection committee for the Gustave O. Arlt Award in the Humanities, and the Finance-Audit Committee.

The father of three married children dispersed around the world, he lives in Champaign with his wife Pat Gill.

In December, Wheeler will succeed 2005 Board Chair, Suzanne Ortega, at the 2005 Annual Meeting in New Orleans.

## CGS Announces Election Results

**Diana Carlin** (1 year term)

Dean, Graduate School and International Programs, University of Kansas

**Moheb Ghali** (3 year term)

Dean of the Graduate School, Western Washington University

**Bruce Jacobs** (3 year term)

Dean of Graduate Studies, University of Rochester

**Victoria Rodriguez** (3 year term)

Vice Provost and Dean of Graduate Studies, University of Texas at Austin

### Nominating Committee, 2005

**Susan Huntington**

Vice Provost, Graduate Studies and Dean of the Graduate School, Ohio State University

**Jordan Konisky**

Vice Provost for Research and Graduate Studies, Rice University

**Orlando Taylor**

Vice Provost, Research and Dean, Graduate School, Howard University

## Ph.D. Completion Project Update

In 2004, CGS received generous support from Pfizer Inc and the Ford Foundation to launch a major initiative designed to address issues of Ph.D. completion and attrition. The ultimate goal of the project is to reduce rates of Ph.D. attrition, known to be as high as 50% in some fields, and increase completion, as proven intervention strategies are widely disseminated and adopted by doctoral departments and programs. The project will highlight strategies for increasing Ph.D. completion rates of minorities and women, particularly in those fields where these groups have been traditionally underrepresented or experience disproportionately high attrition.

### Partners Announced

A Request for Proposals issued in June 2004 solicited responses from approximately 50 CGS member universities. Award recipients were selected by an external Advisory Board, nominated by CGS, comprised of leaders from academia, industry, disciplinary societies, funding agencies, and research programs on minority graduate education. From a highly competitive pool of submitted proposals, 21 universities were selected to participate as Research Partners in the Ph.D. Completion Project. Research Partners represent the demographic diversity of doctoral education in the U.S. and Canada; they include private and public universities from all regions of both countries and minority-serving institutions:

Arizona State University	Howard University	University of Louisville
University of California - Los Angeles	University of Illinois - Urbana Champaign	University of Montreal
University of Cincinnati	University of Maryland - Baltimore County	University of North Carolina - Chapel Hill
Cornell University	University of Michigan	Princeton University
Duke University	University of Missouri - Columbia	Purdue University
University of Florida	North Carolina State University	Washington University - St. Louis
University of Georgia	University of Notre Dame	Yale University

Research Partners will receive awards of up to \$100,000 to collect and submit data on doctoral completion and attrition; implement interventions in areas such as selection, mentoring, financial support, program environment, curricular processes, etc.; and develop rigorous assessment strategies to measure the impact of these interventions. A broader community of Project Partners will be invited to submit data on completion and attrition and participate as fully as possible in the Ph.D. Completion Project. All partners will have full access to information generated in the project as it develops and will meet semi-annually to share information and best practices with the broader graduate community. Research and Project Partners were named by CGS in a press release issued in November 2004.

### The 21 Project Partners include:

University of California - Berkeley	McGill University	Pennsylvania State University
University of Colorado - Boulder	University of Melbourne (Australia)	University of Puerto Rico
Florida State University	Michigan State University	University of Rhode Island
Fordham University	University of Minnesota	Rutgers - State University of New Jersey
University of Iowa	New Mexico State University	University of Southern California
Louisiana State University	New York University	Southern Illinois University - Carbondale
Marquette University	North Dakota State University	Syracuse University

### Recent CGS Activities

A new Web site dedicated to the Ph.D. Completion Project ([www.phdcompletion.org](http://www.phdcompletion.org)) contains a project overview, brief synopses of each Research Partner project with contact information for PI's and project directors, as well as links to research tools, data templates, resources, and publications. As the project evolves, this website will be the primary gateway for institutional and program data.

In January 2005, CGS completed development of a set of new research tools and distributed these tools to all project participants. The completion and attrition data templates, an exit survey template for completers and non-completers, and a project assessment survey tool are available to anyone through the Ph.D. Completion Project Web site. Two new electronic resources for the project have also been established: Completion News, which provides award-recipients with information about grant reporting, timelines, and upcoming events; and Completion Net, a moderated discussion list open to all graduate education leaders, faculty, and students who are interested in the topic of graduate degree completion and attrition.

At its 2004 Annual Meeting held in December in Washington, DC, CGS hosted a breakfast reception for award winners and held an open concurrent session on the topic of "Measuring Doctoral Attrition and Completion," one of the most well-attended concurrents at the meeting. Research Partner graduate deans Howard Jackson (University of Cincinnati) and Maureen Grasso (University of Georgia) presented on their respective institutions' Ph.D. Completion projects. Presider Daniel Denecke, CGS Director of Best Practices, presented an overview and update on the project for participants and others in attendance. [PowerPoint presentations from this session are available at: [www.phdcompletion.org](http://www.phdcompletion.org)]. Other sessions at the annual meeting that highlighted the Ph.D. Completion Project included a plenary on "Overcoming Diversity Fatigue: Sustaining Inclusiveness Efforts," featuring speaker President Freeman Hrabowski of the University of Maryland-Baltimore County, and a pre-meeting workshop on data management with presentations from Maia Bergman (University of Michigan) and Richard Liston (North Carolina State University).

### Coming Up

CGS looks forward to convening Research and Project Partners for an informative and exciting reporting session and technical workshop on the Ph.D. Completion Project at the CGS Summer Workshop in Santa Fe, New Mexico on Wednesday, July 13. More details about this session will be available soon.

## Welcome New CGS Staff

Helen Frasier joined the staff at CGS in January as the new Program Manager for Best Practices. She comes to CGS from the Graduate School of Arts and Sciences at Georgetown University where she was the Associate Director for Academic and Student Affairs. Helen completed a B.A. in Music at the University of Puget Sound, an Ed.M. at Oregon State University, and is working on a Ph.D. in Education Policy at the University of Maryland, College Park. Her doctoral research focuses on the development and use of economic models to evaluate extended time-to-degree and Ph.D. completion.

## CGS Welcomes New Institutional Members: Ferris State University Park University Wilkes University

### Web-Based CGS/GRE Enrollment Survey

The official deadline for the survey was February 1st. If your institution has not already completed the survey, there is still time to logon and submit.

To get to the survey, go to:  
[csgsgresurvey.ets.org](http://csgsgresurvey.ets.org) or email [csgsgresurvey@ets.org](mailto:csgsgresurvey@ets.org) for more information.

## New Deans and Titles

Richard M. Angelo is the Interim Assistant Vice President and Dean, Graduate Studies and Research at Bloomsburg University of Pennsylvania. He replaces James Matta.

Yvette M. Bendeck is now the Associate Vice President for Academic Affairs at the University of Houston-Clear Lake.

Peter Conn is now the Interim Provost at the University of Pennsylvania.

Peter K. Dorhout is Vice Provost for Graduate Education at Colorado State University. He replaces Patrick Pellicane.

David Dummit is now the Associate Vice Provost for Research and Graduate Studies at the University of Vermont.

Kenneth Han is the Associate Dean, Graduate Education and Sponsored Programs at South Dakota School of Mines and Technology. He replaces Sherry O. Farwell.

Diane Krichmer is the Acting Dean, School of Graduate Studies and Continuing Education at Bowie State University. She replaces Ida G. Brandon.

Diana Mayer Demetrulias is now the Vice Provost and Associate Vice President for Assessment and Quality Assurance at California State University, Stanislaus.

Chevelle Newsome is Associate Dean, Office of Graduate Studies at California State University, Sacramento. She replaces Miki Vohryzek-Bolden.

Dallas L. Rabenstein is now the Dean of the Graduate Division at the University of California, Riverside.

William Ray is now the Vice Provost for Norman Programs in Tulsa and Dean, Tulsa Graduate College at the University of Oklahoma-Tulsa.

Harry J. Richards is now the Dean at the University of New Hampshire.

Susan Sances is the Vice President of Academic Affairs at the Chicago School of Professional Psychology. She replaces Michael Horowitz.

Edwin H. Sasaki is the Interim Associate Vice President for Academic Programs at California State University, Bakersfield. He replaces Janice Chavez.

Susan A. Siltanen is Interim Coordinator, Office of Graduate Studies at University of Southern Mississippi. She replaces Bradley G. Bond.

Ramesh G. Soni is Interim Vice President, Research and Dean, Graduate School at Indiana University of Pennsylvania. He replaces Alicia Linzey.

Francis P. Sweeney is the Dean of the Graduate School at Hood College. He replaces Regina S. Lightfoot.



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