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A Guide to the New Academic Year and Beyond: Critical Issues in Graduate Education

One of the most vexing problems that a graduate dean faces is finding the time to think and plan strategically amidst the crush of time-sensitive demands and brushfires. In the spirit of striving for this kind of balance, as a new academic year opens and I begin a second year as CGS president, I write this essay as a condensed guide to the short and long-term issues on the graduate horizon. Below you will find an overview of what I see as some of the major issues that will command our attention this year, the work we will do to address those issues, and some of the projects that are underway to plan for the large-scale changes that will both challenge and enrich the graduate enterprise.

Pressing Issues on the National Scene: The Short Term

Several federal policies with a potential to impact graduate students are now under review, including immigration and tax reform, the reauthorization of the Higher Education Act, and the America COMPETES Act. Additionally, implementation of the Affordable Care Act (ACA), and proposed regulations to expand the Pay as You Earn (PAYE) program have real implications for graduate education. The CGS government affairs team has developed issue briefs on several of these topics. In addition, the team is actively providing guidance to, and seeking clarification from the IRS/Treasury regarding ACA implementation for graduate students. As the discussion evolves around each of these topics, we will provide updates through the "Government Affairs Weekly Update." I urge you to access these resources on the CGS Public Policy webpage and share the update, issue briefs, and other government affairs materials with key stakeholders on your campus.

HEA Reauthorization, REPAYE, and Tax Reform. The ongoing, very public conversation about the rapid increase in graduate student borrowing and the disproportionate share of overall student debt held by graduate students sets the stage for a number of proposed changes to federal loan programs. Each of them threatens to make the cost of borrowing more expensive for master's and doctoral students. Within the context of HEA, consideration is currently being given to eliminating GradPLUS loans and capping the maximum amount graduate students can borrow. By lengthening the time frame for repayment of graduate student loans to 25 years, the proposed REPAYE scheme essentially increases total student debt. Suggested changes to education tax laws could further increase the cost of pursuing a master's and/or a doctoral degree by eliminating above-the-line deduction of interest paid on student loans, limiting access to tax credits, and taxing tuition waivers and remissions as income. CGS is actively sharing information with key congressional committee staff about the significant adverse consequences that such changes would have.

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Affordable Care Act (ACA). When the ACA was passed, the status of graduate students was not considered and the issue has become a major source of conflicting guidance and interpretation on individual campuses. Three federal agencies have jurisdiction over different parts of the law—HHS, DOL and Treasury/IRS—and potential fines for violation of the act's provisions are not trivial—as much as $36,500 per graduate student.

COMPETES Reauthorization. America COMPETES reauthorization is important to graduate education because it contains authority for federal science, technology, engineering and mathematics education programs through the National Science Foundation (NSF). In addition to the direct support the act provides to graduate students, its provisions have broad implications for the context within which research is funded and conducted. CGS is concerned about possible erosion of the NSF merit review process and strongly supports NSF having the flexibility to direct funding to the projects it determines to be of highest priority and quality, including geoscience and social/behavioral sciences. CGS is also strongly committed to the principle that COMPETES Act programs must lead to a stronger more diverse pipeline of next-generation scientists and engineers.

Fisher Affirmative Action Case and Diversity. With the Supreme Court set to rehear the Fisher case, many questions remain about the status of our diversity efforts. There is solid evidence that the graduate community's ongoing effort to increase student diversity and inclusion has born modest fruit. Between 1993 and 2013, for example, the number of under-represented racial and ethnic minorities (URM) earning doctorates in all STEM fields increased at an average annual rate of 7.5% (NSF 2013); DIMAC results further reveal that the doctoral completion gap between majority and URM students is very small (Sowell, Allum, and Okahana 2015). Notwithstanding this real progress, at current rates of change it will take decades before graduate enrollment mirrors the diversity of the larger population. The challenge before us, then, is to devise a strategy or set of strategies that can substantially escalate the rate of change in both the diversity of those who enter our graduate programs and those who earn degrees. We are in the process of developing a framework and a proposal for a follow-on project to DIMAC that has promise to accomplish precisely that. In the meantime, a different CGS project supported by Hobsons, "Innovations in Graduate Admissions through Holistic Review," is examining the current status of holistic review processes at graduate institutions, exploring the potential of these processes to increase diversity, among other aims. A publication on the findings of that effort will be available in December 2015.

The Big Picture: Five to Ten Years (and beyond)

Career Pathways. There is an urgent need for more complete information about the career pathways of our graduates. Better information could help students make better choices, inform our efforts to advocate for the value of graduate education, influence faculty attitudes, and most importantly, act as a powerful tool for improving graduate programs. With joint funding from the Alfred P. Sloan Foundation, the Andrew W. Mellon Foundation, and the National Science Foundation, CGS is developing a core survey instrument and an implementation guide to support institutional data collection of PhD student and alumni career pathways. These tools are being designed to facilitate cost-effective and sustainable strategies for collecting and using career data that recognizes institutionally specific needs; this common set of questions will also have the potential to be used for benchmarking or other purposes. Of course, universities will own the data and ultimately decide how they might best be used and shared. In a next phase of the project, we hope to launch a pilot "data collection for program improvement" effort. While the current career pathways project does not include master's students, we hope to expand it in the relatively near future to include this important majority of graduate students. (For more on the master's education agenda, see below.)

Dissertations. Graduate deans are increasingly confronted with the question of if, when, and for how long dissertation embargoes should be allowed. This is an important question, to be sure, and one ripe for discussion on the CGS Dean's Discussion Board and at future meetings. However, in many ways the issue of embargoes is simply a harbinger of broader changes in the way knowledge is funded, produced, and disseminated. In the daily blizzard of to-dos it is difficult to find time to deeply engage the question of what these changes could or should mean for the future of the dissertation.

Towards that end, and with the important support of ProQuest, next January we will convene a group of top scholars and leaders in graduate education, publishing, library science, and the disciplines to discuss how the tension between intellectual property issues and the open access movement, changes in scholarly publishing, and innovations in technology are shaping the ways dissertations are used and shared. We will also examine if and how the growing awareness of more variable career pathways of PhDs might influence the format or content of dissertations. The goal of the workshop is to identify areas of policy or practice that may require additional focused attention from graduate faculty and administrators. We look forward to sharing the workshop conversation with the CGS community in real time through Twitter and, after the fact, with some more substantial essays delving deeper into the forces changing the landscape of dissertations.

Master's Education. Approximately 7 out of 10 current graduate matriculants are enrolled in master's programs. Yet, we still need more and better information about the factors that contribute to timely master's degree completion and subsequent career pathways and success. Notwithstanding the important 2010 CGS project on "The Role and Status of the Master's Degree in STEM," and more than a decade of Sloan-funded work on the professional science master's, a number of important questions remain. For example: What types of professional development are most conducive to a broad range of career options for master's students, especially for those who are pursing the Master of Arts?; What are the highest impact, most cost-effective services to ensure timely completion of the degree for students, particularly those pursuing master's work on a part-time basis while balancing work, family, and other responsibilities? Further, we have not yet compiled the data or the human interest stories that would make a compelling case for the personal and the public value of master's education. Meanwhile, at both master's-focused and major research universities, graduate deans are being asked to plan, develop, and implement innovative master's programs that can buttress stagnant or declining enrollments elsewhere in the university, often at the same time they are being charged with developing program elimination criteria and processes. Clearly, there is a great deal of very important work to do.

As a start, the CGS research staff have developed a framework for analyzing

secondary data sources to provide basic information about the careers and career mobility of master's degree recipients. When completed, we are hopeful that this information can be used to develop a new master's education best practices project. With the help of CGS Dean-in-Residence Edelma Huntley and Senior Vice President Bob Augustine, we are in the process of developing a strategic research and best practice agenda for master's education and exploring a possible new project on the Professional Master of Arts. We truly welcome your ideas, thoughts, and help and look forward to sharing this work with you as it progresses.

Big Data. Big data, or the "collection, aggregation… and analysis of vast amounts of increasingly granular data," has already begun to impact the practice of graduate education (Cate, 2014). For example, Massively Open Online Courses (MOOCs) offer institutions and educational providers the opportunity to collect and analyze much larger amounts of data on student learning than has been available up to now. Yet to grasp the potential impact of big data on graduate education, we must think in broad terms about the questions raised by this concept and trend. For universities, the questions are practical (how should large amounts of data be managed and stored?); intellectual (what methods should be used for analysis and interpretation?); and legal and ethical (how do we protect the privacy of students and other individuals about whom data are collected?) Above all, however, they are educational: how should we be preparing the next generation of graduate degree recipients to manage the big data issues listed above?

Competency-based Education. In a "Point-Counterpoint" discussion in the April 2015 issue of *GradEdge*, Katrina Rogers and George Walker discussed the implications of the growing interest in and momentum around competency-based programs and pedagogies. At this point, I think, the verdict is out on a number of questions and challenges that the article posed. Will, for example, the competency-based learning approach fundamentally transform the structures and processes of graduate education or will those changes be limited to specific types of programs addressing the needs of specific segments of the graduate student population? Relatedly, are competency-based approaches best conceived as a characteristic of a degree program or as an approach to pedagogy and learning? Will changes that might occur be "disruptive" or will they be more incremental, simply making explicit what graduate programs have been teaching and doing all along? All of these questions deserve, indeed require, our deep consideration and we will continue to engage them at our Annual Meeting in December and in subsequent workshops and venues. However, we are in the process of launching more focused work on two specific graduate-level competencies that are widely considered to be foundational skills/habits of mind for twenty-first century careers.

Interdisciplinary Thinking. At the 2015 Summer Workshop, Karen DePauw (Virginia Tech) and Frances Leslie (UC Irvine) led a vigorous discussion about interdisciplinarity as a habit of mind—a way of framing questions and trying to answer them. This framework helped us to go beyond the common view that interdisciplinarity necessarily requires the restructuring of graduate programs. As in any good conference or research paper, the discussion ended with at least as many questions as answers. (For a fuller discussion of the session see Karen's blog at https://blogs.vt.edu/kpdtge/index.php/2015/08/06/interdisciplinary-thinking.) Over the coming months we will continue the conversation through *GradEdge* articles and at our meetings. If interdisciplinarity is even at least in part an approach to scholarship and thinking, the graduate community must be prepared both to define its essential elements/competencies and to develop a set of pedagogies, curricula, and program enhancements designed to foster it/them.

International Experiences and a Global Perspective. International collaborations are part and parcel of the research enterprise and many federal funding agencies have longstanding programs designed to foster them. But what do these international research experiences mean to the career development of participants? Aside from international co-authored publications and the important but ill-defined "cultural awareness" these opportunities may provide, how do we measure the impact a global research experience has on career preparation and leadership skills over both the short and long terms? As part of the CGS/NSF Dean-in-Residence program, in February 2016 we will convene a focused workshop of graduate deans and colleagues from the German Research Foundation (DFG), the National Science Foundation, NAFSA, the National Academies, and others. The workshop will start the process of identifying the key research questions and metrics for evaluating the impact of global research experiences on the subsequent careers of graduate students. We see this conversation as a first step in more clearly articulating not only the value of a global experience but the competencies that underlie it. We look forward to engaging all of you in a discussion of topic and any policy or practice agenda that might emerge from the workshop over the course of the coming year.

In conclusion, it has been a busy year. Several major projects are winding down—the graduate student financial education project, preparing future faculty to assess student learning, and international research ethics—and we are already thinking about possible successors. Others are moving into a second phase of development, chief among them the PhD Career Pathways project. Several new projects to help us plan for the coming years are also well underway, including graduate preparation for the world of big data, measuring the impact of global learning/experiences, and the future of the dissertation.

We know that this is only a subset of the spectrum of challenges and opportunities to come. Some of those challenges will stem from longstanding concerns on the graduate dean's pressing issues list—student financial support and diversity, for example. Our great opportunity will be to rethink the frameworks we have historically used to understand these problems, using new or refocused technology, policy, and practices to mitigate or solve them. However, we also need to devote time and attention to the future—ours and our students'—in which the only certainty is uncertainty. Specifically, how will we understand and creatively respond to the demographic, technological, political, and economic changes that will affect not only who our students are but what and how they learn, where they will work, and how they will communicate with both fellow scholars and the community at large. There will be other challenges, to be sure. The current effort to parse the student versus employee responsibilities of TAs and RAs, for example, must be resolved. Strengthening the case for graduate education as a public good will remain a very high priority and, I am sure, there are multiple other opportunities just waiting to be discovered. I look forward to hearing from you about what you think we have right in the agenda of CGS work outlined above and what you think we might have missed. Let us know what resources would

be most helpful to you in responding to both today's vexations and to the breathtaking possibilities that are and will be there for our graduate students to seize.

By Suzanne Ortega, President, Council of Graduate Schools

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Team-based Learning for the Responsible Conduct of Research Supports Ethical Decision Making

There is a broad recognition that graduate students and postdoctoral fellows need a number of professional development activities to prepare them to be leaders in their disciplines. Often included among these leadership activities is training in the responsible conduct of research (RCR), both in the STEM disciplines as well as in the social sciences and humanities. For trainees in these disciplines, both NIH and NSF have established guidelines for training graduate students and postdoctoral fellows in ethical research practices. For example, NIH established nine subject areas that it believes are crucial for the biomedical science disciplines, including topics such as protection of human subjects, animal welfare, conflicts of interest, and mentor trainee relationships. These requirements have been in place for more than 20 years, during which time a generation of new researchers have been trained in RCR. Despite this training record, serious occurrences of research misconduct still happen.

Responsibility for training in responsible conduct of research often falls to graduate deans and/or the research integrity offices within academic institutions. Institutions have adopted various strategies for meeting these requirements, from online courses to periodic lectures to face-to-face instruction. Many leaders have questioned the efficacy of these strategies to prepare future leaders in the discipline and to address the issues that will challenge their profession over the lifetime of their careers. In one study by Antes and her collaborators (2010), traditional RCR training methods (didactic lectures and online courses) did not result in improved ethical decision-making. Possible reasons for this apparent lack of improvement in ethical behavior might include (1) overconfidence in the learner's ability to identify and address ethical dilemmas, (2) the pedagogy for engaging learners might be inappropriate for the task (i.e., learners are not sufficiently engaged), (3) learners may be uncomfortable in revealing ethical questions or dilemmas to faculty or teachers for fear of some negative outcome, and (4) faculty do not have sufficient training to provide effective ethics education.

In 2008, Mumford and his collaborators (2008) described a sense-making approach to ethics training for scientists. Participants in this study showed both short- and long-term gains in their ability to make ethical decisions based on the content of this 2-day workshop. This course covered a range of RCR-related topics (e.g., fabrication, falsification, plagiarism, mentoring, whistleblowing, power of situational influences on unethical behavior) and emphasized various strategies for thinking about and working through ethical dilemmas. In addition to teaching sense-making, Mumford's teaching approach incorporates role playing, analysis of ethical case studies, and group discussions, course features that require students to actively process and elaborate on the material and topics presented. Taken together, these active-learning course elements appear to have resulted in training that facilitates effective ethical decision-making (Steele et al., 2015).

There are a number of other active learning pedagogies, one of which is team-based learning (TBL). The goal of the current study is to assess empirically the efficacy of a team-based learning format in an RCR course with respect to ethical decision making.

Based on earlier work at the University of Florida College of Medicine (McCormack and Garvan, 2014), a TBL approach to RCR education has been developed and tested by a team of investigators at a number of research-intensive institutions (Penn State College of Medicine, University of Alabama at Birmingham, University of Florida, University of Mississippi Medical Center, and the University of Virginia). TBL places an emphasis on pre-class preparation, in-class testing of comprehension of the materials ("readiness assurance"), with the majority of class time used in application activities (in our project, case studies) that challenge the teams of students to work together to devise, analyze, choose and defend solutions to in-class challenges. It is often the conflict between suggested solutions that stimulates robust discussion of ethical considerations and competition between alternate solutions.

To enhance the tools available to learners to analyze case studies, we added to the TBL approach a formal moral method, the SFNO Moral Method, developed by DuBois (2008). Applying this method requires learners to (1) identify the source of the ethical dilemma, (2) organize the information into categories of information including stakeholders (e.g., people, organizations), facts (knowns, unknowns), norms (professional, social), options (potential decisions, courses of action), (3) identify the primary source of the conflict, and (4) adjudicate between the competing stakeholders, facts, and professional norms. The SFNO method provides a rigorous approach to analyzing the many aspects of an ethical question and provides a framework to formulate and evaluate various solutions to the dilemma.

To assess gains in ethical decision making, data from pre- and post-course surveys of participants at each institution were collected and analyzed. Survey items measure the ethicality of decisions in four domains, including data management, study conduct, professional practices, and business practices, as well as overall decision ethicality. Other survey items measure responses to seven metacognitive reasoning strategies; these

measures help people take a broader perspective, think about consequences, and see alternative viewpoints. The survey also measures seven social behavioral responses, which include pro-social behaviors such as not retaliating, taking responsibility, being less selfish, and other behaviors that generally involve others in ethical decision-making processes. This survey instrument has been validated by Mumford et al. (2008) for these analyses.

Analysis of the data for the more than 160 students who participated in Spring 2015 team-based learning RCR courses and who completed both the pre- and post-course surveys show some improvement in the social-behavioral responses (i.e., less retaliation, selfishness, and avoiding responsibility) and on five out of seven areas of meta-cognitive reasoning strategies (see Figure 1). An earlier analysis (Antes, 2010) of 173 participants who took a lecture-based RCR course were used for comparison, to analyze whether the TBL approach better prepared students to address ethical decision-making.

There were several interesting findings in these trends. First, there appeared to be a gain in the overall ethicality exhibited by the participants in the team-based learning approach to RCR education, compared to the earlier study (Antes, 2010). Second, while some measures of social behavioral and metacognition metrics remained negatively affected in both studies, there were more positive gains in these measures for learners participating in TBL courses, compared to the more traditional lecture based courses.

We were particularly struck by the decrease in the metrics that measure "seeking help" and "considering others". We had expected that team-based learning would increase a learner's likelihood of seeking help of peers when confronted with an ethical dilemma. That decrease may be explained by the potentially increased feeling of self-efficacy after completing the course, which was revealed in our study using the General Self-Efficacy Scale (Schwarzer and Jerusalem, 1995). Learners may believe that they are better able to solve these dilemmas on their own. Alternatively, they may fear negative consequences of revealing concerns or missteps to peers or faculty mentors. We hope in future research to expand beyond the outcomes of individual learners and explore broader aspects of the academic culture and its influences on the ethical behavior of research practitioners.

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Figure 1: Trends in Ethical Decision-Making

Metric	Number of measures in the metric	Antes, et al. (2010)	Our study
Ethicality domains	4	↓ 1/4	↑ 1/4
Social behavioral metrics	7	↓ 4/7	↓ 4/7 ↑ 3/7
Metacognition	7	↓ 1/7 ↑ 4/7	↓ 2/7 ↑ 5/7
General Self-Efficacy	1	n.a.	↑

Endnotes

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These course materials will be made available through MedEdPORTAL.

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Data Sources: Trends in Engineering Reveal an Influx of International Students

When examined in aggregate, it is easy to understand why data regarding graduate enrollment and degrees in the broad field of engineering should be of interest. For one, it is a large field of study. With over 150,000 graduate students enrolled in Fall 2014, the field of engineering was the largest field of study in the science, technology, engineering, and mathematics (STEM) fields, and the fourth largest field of study overall, according to the *2014 CGS/GRE Survey of Graduate Enrollment and Degrees* (Allum & Okahana, in press). Engineering made up 10% of all graduate students enrolled in Fall 2014, and 9% of all degrees awarded in 2013-14. The field of engineering has also been traditionally composed largely of men. In fact, three-quarters (76%) of engineering students in Fall 2014 were men, while 24% were women, a distribution that is generally the same regardless of enrollment intensity (part-time vs. full-time) and degree objective (doctoral vs. master's and graduate certificate).

There is another reason why the field of engineering should be of particular interest: engineering has the highest proportion of temporary residents than any other broad field of study. More than one-half (53.1%) of engineering students were temporary residents in Fall 2014. As this article will explain, the examination of enrollment by citizenship and by specific engineering discipline suggests some very different patterns within the broad field of engineering.

There is considerable variation in the overall enrollment size among the seven engineering disciplines, according to the *2014 CGS/GRE Survey of Graduate Enrollment and Degrees* (see Table 1). In Fall 2014, computer, electrical, and electronics engineering had the largest number of graduate students (46,731) followed by 'other' engineering disciplines (which includes aeronautical, agricultural, geological, nuclear, petroleum, and systems engineering, among others) (38,917), mechanical engineering (20,832), and civil engineering (17,100). Chemical engineering, materials engineering, and industrial engineering were the smallest of the engineering disciplines, with 7,603, 6,804, and 8,081 students enrolled respectively. Despite the variation in enrollment size, most engineering disciplines had large numbers of temporary residents. In five of the seven engineering disciplines, temporary residents constituted more than one-half of engineering students in Fall 2014. The percentage of temporary residents was particularly high in computer, electrical, and electronics engineering (71%), which is also the largest of the seven engineering disciplines.

There has also been strong growth in enrollment in the field of engineering. Between Fall 2013 and Fall 2014, there was a 10.7% increase in first-time enrollment, and a 7.2% increase in total enrollment in the field of engineering, second only to mathematics and computer sciences (16.6%). In the decade between 2004 and 2014, engineering has enjoyed the third highest growth rate of all broad fields in terms of first-time and total enrollment (7.2% and 3.6%, respectively).

Using data from only those institutions that provided data to the *CGS/GRE Survey of Graduate Enrollment and Degrees* for all years between 2004 and 2014, a technique intended to help control for year-to-year variations in survey participation, three patterns of first-time enrollment with respect to citizenship appear to emerge. Finally, materials engineering and 'other' engineering disciplines exhibit a pattern in which there are consistent increases among U.S. citizens and permanent residents as well as temporary residents. In other words, growth appears to be occurring in both fields, regardless of citizenship.

A second, more notable pattern among some graduate engineering disciplines exhibits a different pattern, one in which the number of temporary residents enrolled for the first-time has increased rapidly in recent years, while the number of U.S. citizens and permanent residents enrolled for the first-time has either remained flat or increased at a very low rate. Industrial engineering and, as illustrated in Figure 1, computer, electrical, and electronics engineering follow this pattern. In the case of computer, electrical, and electronics engineering, there has been a 157% overall increase in first-time enrollment among temporary residents between 2004 and 2014, and a 3% overall decrease in first-time graduate enrollment among U.S. citizens and permanent residents (based upon institutions that provided data for all years 2004 through 2014).

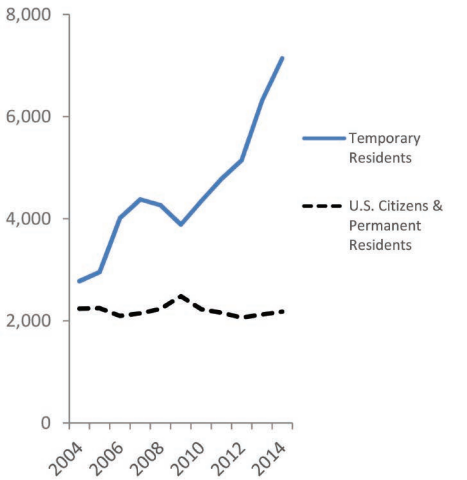
Finally, some engineering disciplines show a different pattern, one in which the number of temporary residents enrolled for the first-time in graduate engineering programs has recently surpassed the number of U.S. citizens and permanent residents enrolled for the first-time in graduate engineering programs. Generally speaking, chemical engineering, civil engineering, and mechanical engineering all exhibit this pattern. The number of temporary residents enrolled for the first time in chemical engineering surpassed the number of U.S. citizens and permanent residents enrolled for the first-time in this field in 2012. Similarly, in 2014 the number of temporary residents enrolled for the first-time

Table 1: Distribution of Total Graduate Enrollment in Engineering by Discipline and Percent of Temporary Residents, Fall 2014

Engineering Discipline	Total Enrollment	Percent Temporary Residents
Chemical	7,603	52%
Civil	17,100	48%
Computer, Electrical, Electronics	46,731	71%
Industrial	8,081	59%
Materials	6,804	54%
Mechanical	20,832	50%
Other	38,917	38%
Not reported	6,302	n/a

Source: 2014 CGS/GRE Survey of Graduate Enrollment & Degrees

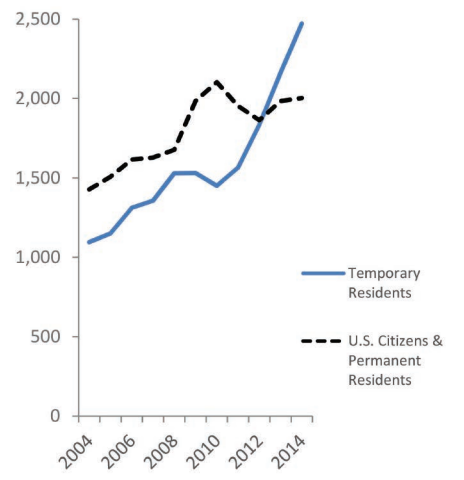
Figure 1: Trends in First–Time Graduate Enrollment in Computer, Electrical, and Electronics Engineering, Fall 2004 to Fall 2014



Note: Trend lines were developed using data from only those institutions providing data for all years being examined, 2004 to 2014

Source: CGS/GRE Survey of Graduate Enrollment and Degrees

Figure 2: Trends in First–Time Graduate Enrollment in Mechanical Engineering, Fall 2004 to Fall 2014



Note: Trend lines were developed using data from only those institutions providing data for all years being examined, 2004 to 2014

Source: CGS/GRE Survey of Graduate Enrollment and Degrees

in civil engineering surpassed the number of U.S. citizens and permanent residents enrolled in this discipline. Finally, the number of temporary residents enrolled for the first time in mechanical engineering graduate programs surpassed the number of U.S. citizens and permanent residents enrolled for the first time in mechanical engineering graduate programs in 2013 (Figure 2). Specifically, and based upon institutions that provided data for all years 2004 through 2014, there was a 126% overall increase in first-time enrollment among temporary residents in mechanical engineering between 2004 and 2014, and 40% overall increase in first-time graduate enrollment in this field among U.S. citizens and permanent residents.

While it remains to be seen whether these patterns will be sustained in the coming years, they are of interest for the time being. While it cannot be said for sure, it is reasonable to assume that master's education is the driving force behind most of these trends due to the fact that engineering, like all broad fields of study in graduate education, is composed largely of students pursuing master's degrees. In Fall 2014, for example, more than two-thirds (69%) of all applications to engineering programs were for master's or graduate certificate programs, and 79% of first-time engineering students and 61% of all engineering students were enrolled in master's or certificate programs. Regardless, these data suggest that engineering is a large, diverse, and evolving field of study, and future iterations of the *CGS/GRE Survey of Graduate Enrollment and Degrees* will continue to shed light on this and other aspects of graduate education.

By Jeff Allum, Director, Research and Policy Analysis, Council of Graduate Schools

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Edelma Huntley Named CGS Dean in Residence for 2015/2016

CGS is pleased to announce that Edelma Huntley joined CGS on August 1 and will work with the organization through July 2016.

Dr. Huntley served as Dean of the Graduate School and Chief Research Officer at Appalachian State University from 2006 to 2014. Edelma brings to the post significant experience leading graduate education, including serving as President of the Conference of Southern Graduate Schools (CSGS) from 2012 to 2014, and serving two terms on the CGS Diversity and Inclusion Committee.

As Dean of the Graduate School and Chief Research Officer at Appalachian State University, Huntley oversaw development of the institution's first Professional Science Master's programs, graduate certificates, dual degrees, and accelerated baccalaureate-to-master's programs. She chaired a committee that envisioned and developed the Research Institute for Environment, Energy, and Economics. Huntley also created the Graduate Research Associates Mentoring Program at Appalachian State, providing two years of support for promising master's-level researchers to work with faculty mentors.

Huntley holds a PhD in Restoration and 18th Century British Literature from the University of Louisiana, Lafayette. At Appalachian State, she was the recipient of multiple teaching awards, including the Distinguished Graduate Faculty Award and a campus-level, North Carolina Board of Governors Teaching Award.

The CGS Dean-in-Residence program was created to infuse a campus-based perspective and vision across a variety of the Council's programs and initiatives. The Dean-in-Residence works on multiple projects aligned with his or her interests and the Council's needs.

CGS New Deans Institute and Summer Workshop a Great Success!

The 2015 New Deans Institute and Summer Workshop in Québec, Canada proved to be another highly successful meeting. The 250 registrants attended three plenary sessions, four Dean Dialogues and twelve Hot Topic sessions covering topics ranging from graduate education and the changing legal landscape, accountability and assessment, holistic review in graduate admissions, and advocacy. The opening dinner and reception and several networking lunches provided attendees the opportunity for much discussion and interaction.

We would like to thank the CGS Board, meeting presenters and the following sponsors for helping to make the meeting a success: Educational Testing Service and ProQuest Dissertations Publishing. We would also like to thank the following member institutions for their support in sponsoring the refreshment breaks: Boston College, Concordia University (Canada), Cornell University, Georgia Regents University, Massachusetts Institute of Technology, McMaster University, and the University of New Hampshire.

PowerPoint presentations from the meeting can be found on the CGS website at www.cgsnet.org.

New Members

Regular:

California University of Pennsylvania (returning)

Concordia University St. Paul (returning)

University of West Georgia (returning)

CGS Welcomes New Senior Vice President

Robert M. (Bob) Augustine joined CGS on August 1 to begin a two-year term as the Council's Senior Vice President. Bob was previously the Dean of the Graduate School, Research and International Programs at Eastern Illinois University (EIU), and, in addition to serving two terms as President of the Illinois Association of Graduate Schools, Augustine served on the CGS Board of Directors from 2011 to 2014 and held the position of Board Chair in 2013.

Augustine will bring to CGS diverse experience in developing best practices for serving master's degree students. During his tenure as graduate dean, EIU's graduate school earned the ETS/Midwestern Association of Graduate School's Award for Excellence in Graduate Education for the First Choice Graduate Programs Initiative. His institution was also awarded the ETS/CGS Award for Promoting Success in Graduate Education for developing the Integrative Graduate Studies Institute, as well as the CGS/TIAA-CREF Award for Enhancing Financial Literacy, which allowed EIU to launch a center devoted to Literacy in Financial Education.

Augustine holds a PhD in communication sciences and disorders from Southern Illinois University at Carbondale, where he earned a Department Distinguished Alumni Award. Following clinical experience in speech-language pathology, he launched an early intervention language clinic focusing on integrative language strategies at EIU. Augustine guided expansion of the program, launched the first technology-enhanced courses, and developed the program's first international outreach efforts before becoming Dean of the EIU Graduate School in 2000.

The newly created Senior Vice President's role will expand the services that CGS provides to master's-focused institutions. Working with colleagues in CGS's Best Practices division, Augustine will be responsible for developing an infrastructure for research on issues related to the master's degree and for delivering programs relevant to the needs of master's-focused institutions. He will also be responsible for the management and convening of the CGS Master's Committee.

New Deans and Titles

Wojtek Chodzko-Zajko is the Dean of the Graduate College at the University of Illinois at Urbana-Champaign. He replaces Sarah Lubienski.

Kavita Dhanwada is the Interim Dean of the Graduate College at the University of Northern Iowa. She replaces April Chatham-Carpenter.

Brian Goldstein is the Interim Provost and Vice President for Academic Affairs at La Salle University. He replaces Margaret M. McManus.

James Herbert has been named the inaugural Dean of the Graduate College and Executive Vice Provost at Drexel University.

Scott Herness is the Interim Vice Provost of Graduate Studies and Dean of the Graduate School at The Ohio State University. He replaces Patrick Osmer.

David Jackson is the Associate Provost for Graduate Education and Dean of the Graduate College at Florida A&M University. He replaces Verian Thomas.

Brian Kloeppel is the Interim Dean of the Graduate School and Research at Western Carolina University. He replaces Mary "Mimi" Fenton.

Douglas Rees is the Dean of Graduate Studies at California Institute of Technology.

Mary Robbins is the Interim Dean of Graduate Studies and Associate Vice Provost for Sam Houston State University. She replaces Kandi Tayebi.

Donna Schultheiss is the Interim Dean, College of Graduate Studies at Cleveland State University.

Gail Simmons is the Provost and Senior Vice President of Academic Affairs at Hofstra University. She replaces Herman Berliner.

Wade Tornquist is the Interim Associate Provost and Associate Vice President for Graduate Studies and Research at Eastern Michigan University. He replaces Jeffrey Kentor.

Regina Vasilatos-Younken has been appointed the Vice Provost for Graduate Education and Dean of the Graduate School at Penn State University.

Doug Welch is the Associate Vice-President and Dean of Graduate Studies at McMaster University.

Beth Winkelstein is the Vice Provost for Education at the University of Pennsylvania. She replaces Andrew Binns.

O. John Zillman is the Interim Senior Vice President of Academics at Concordia University Chicago.

Join us for upcoming CGS webinars

Invitations will be emailed to CGS members.
More details at www.cgsnet.org/cgs-webinars.

It's Complicated: Understanding Graduate Student Debt Data
2:00-3:00 p.m. Eastern, September 23, 2015

Making the Most of Your Benefits: An Overview of Tools on the CGS Website
3:00-4:00 p.m. Eastern, October 20, 2015

Revisiting the CGS/GRE Survey of Graduate Enrollment & Degrees
1:00-2:00 p.m. Eastern, November 17, 2015

Financial Education: Results and Implications for University Programs
2:00-3:00 p.m. Eastern, December 9, 2015

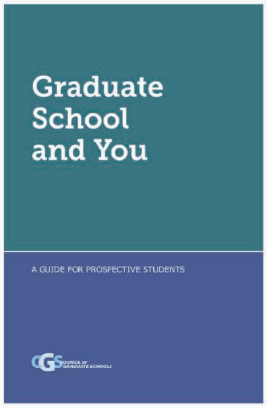
DID YOU KNOW?

Did you know that S. Donald Stookey, the inventor of CorningWare, received two job offers after finishing his doctorate? He turned the Nabisco baking company offer down because he knew he did not want to bake bread.

http://www.nytimes.com/2014/11/07/business/s-donald-stookey-inventor-of-corningware-dies-at-99.html

Top CGS Publications for Prospective Students

Several of the most popular CGS publications are newly revised, with updated information to help students consider the benefits of graduate education.



GRADUATE SCHOOL AND YOU
(Revised 2014)
Item Number: GRASCH
Price: $12 (Bulk discount) This revised guide provides practical, straightforward advice about graduate education for prospective students. Updated information on master's and doctoral study, the benefits of a graduate degree, the application and admissions process, and current online and other sources of financial support for graduate study make this guide an indispensable tool for recruiting and mentoring.

CGS Flyers, revised 2014

WHY SHOULD I GET A MASTER'S DEGREE?
Item Number: MAFLYER
Price: $1 (Bulk discount)

OPEN DOORS WITH A DOCTORATE
Item Number: PHDFLYER
Price: $1 (Bulk discount)

FINANCING GRADUATE EDUCATION
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