

# Graduate School Celebrates 100 Years

A Century of Excellence in Graduate Education and Research at the University of Wisconsin-Madison

## The Graduate School at UW-Madison: 100 Years and Counting

The movement toward more formal graduate study at the University of Wisconsin-Madison began in 1895, when a committee was formed to consider the prospect. Prior to 1895, graduate training was handled by several departments of the university, but it was not a coordinated effort. In January 1904, the committee on graduate study recommended that a graduate school at the University be established and administered by a standing faculty committee. The regents immediately approved the recommendation, with faculty endorsing the proposal on January 9, 1904.

The establishment of the Graduate School was not without controversy, however.

The state legislature disapproved of the way in which the regents had established the Graduate School. In fact, in 1905 the legislature declared that no additional schools at the University could be established without its consent. In addition, some state legislators voiced concerns about the growing enrollment of out-of-state students, many of whom were graduate students.

Professor G. C. Comstock, the director of the Washburn Observatory, was appointed director of the fledgling Graduate School in 1904. In 1910, Director Comstock was able to obtain the status of separate faculty for those giving graduate instruction.

The newly established Graduate

School was, in the words of then-Letters and Science Dean George Clark Sellery, “a sort of bootleg affair.” At its inception, the Graduate School had no budget, a decision stemming from a concern that a separate budget for graduate work might provoke the wrath of critics of advanced studies. Director Comstock struggled to gain a better organizational footing for the unit, striving to improve standards without sacrificing departmental flexibility.

Graduate student enrollment grew from 148 in 1905 to 377 in 1912 and to 507 in 1920. The steady increase in the number of graduate students was a product of many factors: the growing reputation of the university as a research site; an increasing number of fellowships and scholarships; the growth in the number of teaching assistantships as the undergraduate population grew; and more job opportunities for graduates with advanced degrees in industry and in the expanding network of colleges and universities across the nation.

In its first decade, the Graduate School controlled few research resources. But when the state legislature began to provide an annual appropriation for research in the second decade of the century, the Graduate School quickly evolved into the unit responsible for distributing the funds.

The quarter century after World War II brought an influx of external

funds to the university, primarily from the federal government but also from foundations, corporations and other private sources. Most of this external funding was dedicated money and supported specific kinds of research and training.

One source of external private funding at UW-Madison was the Wisconsin Alumni Research Foundation (WARF). WARF was established in 1925 to manage and market patents based on UW faculty research discoveries. The concept behind the establishment of the foundation was quite revolutionary: the income generated by marketing the results of faculty research would support additional research at the University.

By the 1950s, private foundation funds were shaping the University’s instructional and research activities to a great degree. For example, small grants from foundations such as the Carnegie Corporation provided funding for the development of a Scandinavian Studies program and to support the core faculty for a thriving program in African History, one of the most distinguished in the nation, and the nation’s only Department of African Languages and Literature.

The federal government’s impact on University research and instruction grew after World War II. Federal funds became a major source of graduate fellowships and traineeships

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## Taking a Moment to Reflect on a Success Story

Martin Cadwallader  
Dean, Graduate School

Graduate schools, like people, are remembered for their deeds. So what does history tell us about this Graduate School, now 100 years old?

■ It is a success story. When the Board of Regents created the unit in



1904, the regents provided no budget. Today, the school annually administers a \$130 million budget, and oversees more than \$700 million in extramural funding for the campus.

■ It makes excellence in research a top priority. The annual fall competition, which last year awarded more than \$5 million to more than 300 faculty, is almost unprecedented among American universities. Both the State of Wisconsin and the Wisconsin Alumni Research Foundation contribute the dollars that make this 85-year-old tradition possible. WARF’s contribution cannot be overstated; since its first grant to the UW in 1928, the foundation has supported more than 47,000 research projects and given some \$710 million

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Artwork commissioned by UW-Madison in 1907

## A Century of Excellence in Graduate Education and Research: A Timeline

### 1882-1903

- Graduate work existed for 20 years prior to the creation of the administrative unit called the Graduate School.
- 1882: First master's degree is awarded.
- 1892: First Ph.D. is awarded to Charles Van Hise in geology.
- 276 advanced degrees were awarded prior to 1904:
  - 219 Masters degrees between 1879-1904.
  - 57 Ph.D.s between 1892-1903.
- 1900: 14 institutions from around the country, including UW-Madison, meet in Chicago to consider graduate education issues. This meeting results in the creation of the Association of American Universities, which in turn leads to the formal establishment of the Graduate School at UW-Madison on Jan 11, 1904.



1904  
jubilee  
commencement  
banner

### 1904-1913

- Graduate work is supervised by a Graduate administrative committee and the GS director. The administrative committee made frequent recommendations that the Graduate Faculty authorize additional departments to offer degrees.
- 1904: 16 masters, and 12 doctorates are awarded. Total graduate enrollment is 115.
- 1904: G.C. Comstock of the astronomy department was appointed the first director. His title was changed to Dean only 10 years later.

### 1914-1923

- 1915: General requirements for Ph.D. are restated and 8 graduate divisions organized: Mathematical and Physical Sciences, Chemistry Conference, Biological Division, Division of Education, Psychology and Allied Fields, Division of Languages and Literature, Social Studies Division, and the Division of Earth Sciences.
- 1917: Formation of the Research Committee.



G.C. Comstock

### 1924-1933

- 1924: Harry Steenbock discovers the process of irradiating food to enrich food with vitamin D, a discovery that effectively leads to the elimination of rickets.
- 1925: WARF is founded by Steenbock and his colleagues. Steenbock's vitamin D patents establish a portfolio of inventions and investments used to fund research at UW-Madison.
- Enrollment in 1928: 754 men and 363 women for a total of 1,117.
- 1934-1943
  - June 17, 1934: Arboretum is dedicated. It became a center of the Graduate School in 1990.
  - 1935: 400 Teaching Assistants and 117 Research Assistants are employed.
  - 1936: Graduate School enrollment includes 78 international students from 20 countries, including the Hawaiian Islands.
  - 1937: Tuition and fees for graduate study at UW-Madison are \$55 for residents and \$255 for non residents.
  - 1937: UW Press is established.

### 1944-1953

- 1948-50: Grad School takes over the evaluation of applications for admission to graduate studies, a task formerly handled by the Registrar's office. In turn, the Registrar's office assumes responsibility for recording programs and grades. The changes are hailed as more efficient.
- 1950-51: Total graduate enrollment is 3,610, compared with 676 in mid-war period of 1943-44.

### 1954-1963

- 1955-56: 818 Masters and 356 Ph.D.s are awarded.
- 1956: 57 WARF funds exceed \$1 million for the first time.
- 1958: \$1.5 million in WARF funds and \$227,000 of state funds allocated by the Research Committee.
- 1963: 697 International graduate students from 65 countries enroll in 78 majors.

### 1964-1973

- 1964: Department of African Language and Literature is authorized to grant Ph.D. degree.
- 1964: New master's degree in Chinese approved.
- 1966: Authorization to grant Ph.D. in Scandinavian Literature approved.

### 1974-1983

- 1975: \$4.2 million in WARF funds made available.
- 1980: Masters of Afro American Studies is offered for the first time.

### 1984-1993

- 1984: Women's Study minor is approved.
- 1992: Graduate School minimum GPA requirement changed from 2.75 overall to 3.00 in last 60 semester hours.
- 1984: John Wiley is appointed dean.



Harry Steenbock, circa 1929



UW Arboretum, circa 1930

### 1994-2003

- 1994: Graduate School establishes a Web site presence and records an impressive 2,722 hits in the first year.
- 1995: Estimated expenses for a single graduate student for "12 months is \$14,000 for a resident, \$22,500 for a nonresident.
- 1996: Using the World Wide Web is discussed by the Grad Faculty Executive Committee as a strategic planning item.
- 1996: Graduate School begins using an electronic application via the Web for the first time.
- 1998: The Graduate Student Council is created.
- 2003: Graduate School streamlines its admissions process, requiring that applicants send all application materials directly to the department.
- 2003: Graduate School relies on electronic communications to notify applicants about residency, and to request academic records.

### 2004

- Total Fall 2004 enrolled graduate students: 8,942\*.
- Total Fall 2004 enrolled international graduate students: 2,239\*.

\*Derived from the data warehouse "Frozen Enrollment" tables, as of the 10th day of class, Fall 2004.

### Graduate School Centers

- Aquatic Sciences Center
- Arboretum
- Biotechnology Center
- Biotron
- Endocrinology-Reproductive Physiology (ERP) Program
- Institute for Molecular Virology (IMV)
- Institute on Aging
- Laboratory of Molecular Biology
- Physical Sciences Laboratory (PSL)
- Primate Research Center
- Research Animal Resource Center
- Space Science & Engineering Center (SSEC)
- Synchrotron Radiation Center (SRC)
- University of Wisconsin Press
- Waisman Center
- Wisconsin Stem Cell Research Program

## The Fall Competition: An 85-Year Commitment to Faculty Research Support

Perhaps nothing captures the goals and principles of the Graduate School better than the fall competition. This annual distribution of research resources to faculty, accomplished by the four disciplinary research committees, is almost unprecedented nationally in its size and scope. Last year, for example, the committees distributed more than \$5 million to more than 300 faculty members on the UW-Madison campus.

While today's Research Committee is a much more complex animal than its early 20th century predecessors, its focus on employing faculty decision-making to move resources into the hands of faculty remains an enduring trait of the fall competition. The occasional historical explanation of the committee's criteria for choosing among faculty applications (see the 1937 version in the box that accompanies this article), for example, could easily be mistaken for a modern account.

The University Research Committee was created in 1917, more than a decade after the founding of the Graduate School itself, initially with a mission to raise funds for and to coordinate national defense research during the height of World War I. But the group quickly morphed into one dedicated to providing research resources to faculty. When the state legislature provided an appropriation of \$23,000 for research for the first time in 1919, the Research Committee sent out an invitation to faculty to apply for the funds. The chair's expectations of the applications set a pattern that persists to this day:

- Subject and purpose of the investigation
- Faculty member's current status
- Track record of the personnel involved
- Cost of the research

### Graduate School Deans 1904-2004

1904-1920	G.C. Comstock
1920-1934	Charles Sumner Slichter
1934-1944	E.B. Fred
1944-1945	Ira Baldwin
1946-1958	Conrad Elvehjem
1958-1963	John Willard
1963-1967	Robert A. Alberty
1967-1989	Robert Bock
1989-1994	John Wiley
1994-1995	W. Charles Read
1995-2001	Virginia Hinshaw
2001	Martin Cadwallader



The Research Committee, circa 1953

- Length of time needed to complete the work
- Likely outcomes of the work

All requests were to come directly to the committee from individual professors, not from department chairs or deans. The committee, made up of five or six research heavyweights with the Graduate Dean serving as chair, began meeting annually to make its choices.

When the Wisconsin Alumni Research Foundation was created in the mid-1920s, some of its funds became part of the Research Committee's portfolio. The coffers of the committee then grew steadily; today, the WARF gift provides the bulk of funds awarded, although state money still plays a role.

One of the earliest and most intense debates in Research Committee and WARF ranks was over who should get money from the Research Committee. The answer for many years was: researchers in the natural sciences. The committee indeed funded some social science and humanities research, but it was loathe to use WARF funds in the process, preferring instead to provide social science and humanities awards out of the annual appropriation provided by the state. Even a pioneer seed grant from WARF to the recently established UW Press in 1937 specified that the funds were limited to "publication of research in the natural sciences."

By the 1950s, faculty pressure to provide more resources to the social sciences and humanities had grown into a concerted and occasionally public campaign, with support even from the newly elected governor, Gaylord Nelson. Graduate School

Dean Conrad Elvehjem opened the WARF door a crack in 1957 by proposing to use \$25,000 of the WARF gift to support social science faculty engaged in mass communication and survey research. Soon, that crack widened. In a 1961 meeting, the Board of Regents adopted a major policy statement that declared, in part, "In all its research and scholarly effort the University should advance, in balance, the natural sciences, the social studies and the humanities."

In 1962, the Research Committee announced that, henceforth, it would accept no external restrictions on the fields to which WARF funds would be committed. Noted Graduate School Dean J. E. Willard in his annual report that year to the WARF trustees: "It is now the Research Committee's aim to distribute the research funds available to it on the basis of the quality of the programs proposed rather than on the basis of the fields in which they fall."

As the University grew, so did the work of the Research Committee. Where one committee handily made all decisions in the first half of the century, that single committee—albeit growing larger year by year—became increasingly overworked as the century wore on. By the late 1960s, the committee had been cleaved in two, with one committee evaluating physical and natural science proposals and the other vetting applications from the humanities and social sciences. Later in the century, those two committees subdivided again, creating today's four research committees with four associate deans at their helms. ■

### How the Research Committee Functions

The Research Committee. This is a standing committee of the faculty, consisting of five to seven persons appointed by the President on the recommendation of the Dean of the Graduate School. For the year 1936-37, the committee is composed of the following members:

- E.B. FRED, Professor of Agricultural Bacteriology
- W.J. MEEK, Professor of Physiology
- F. DANIELS, Professor of Chemistry
- E.B. HART, Professor of Agricultural Chemistry
- S. PERLMAN, Professor of Economics
- M. INGRAHAM, Professor of Mathematics
- W.F. TWADDELL, Professor of German

It has always been our custom to visit the various departments throughout the University and in this way gain first-hand knowledge of the research worker and his equipment. Our visits are not inspections, but rather attempts to make personal contact with the workers.

We study the needs of the various investigators and make recommendations for support without regard to college or department. The merit of the project and the ability of the leader are the all-important factors. In general, the Committee has preferred to support projects which are already under way and where the chances of success are above average.

All of our grants are made on a yearly basis with the understanding that the allotment will not be continued unless the results justify additional support. With the limited funds at our disposal we believe that we can accomplish the most good by making relatively small grants to a large number of projects. Our projects naturally divide into two groups.

1. Grants-in-aid, usually for less than \$600, to young and often inexperienced investigators.
2. Grants-in-aid, usually for less than \$2,000, to more experienced investigators whose projects have been under way for a number of years.

In selecting the project we consider the following:

1. Is this particular project when judged from the standpoint of science or practical application worth the effort and money required?
2. If the foregoing question can be affirmatively answered, the next problem is whether the project is of a character which lends itself to solution under the limitations involved in our University research program.
3. Are the proposed investigators fully competent to carry on the investigation?
4. Is the supervisor giving proper personal attention to the project? If not, indicate whether the failure is due to lack of interest, or inability to find time due to pressure of other work.

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Statement provided by E. B. Fred, dean of the Graduate School, in the 1936-37 "Report to W.A.R.F. Trustees" in response to requests "at various times to explain how the Research Committee functions."

100 Years and Counting *continued from page 1*

and helped to fuel the construction boom on campus. The GI Bill of Rights expanded access to undergraduates and graduate students alike in the immediate postwar years. Graduate student enrollment shot up to 3,610 in 1950, from 676 in 1943-44.

Another incentive for growth in the postwar years was the creation of the National Science Foundation, established in 1950 to provide federal support to scientific research in order to preserve the country's leading edge in science and technological advances. NSF funds flowed to UW faculty members and graduate students to support their research.

UW-Madison was also building a solid reputation as a leading national center for scientific research and training in the biological sciences. During the 1950s and 1960s, the National Institutes of Health increasingly provided support for the UW life sciences programs. NIH grants funded research projects, facilities and equipment, and graduate and post-graduate training.

The expansive growth in faculty and the considerable influx of external funding during the post World War II era produced a number of instructional developments at UW-Madison. Changing technologies

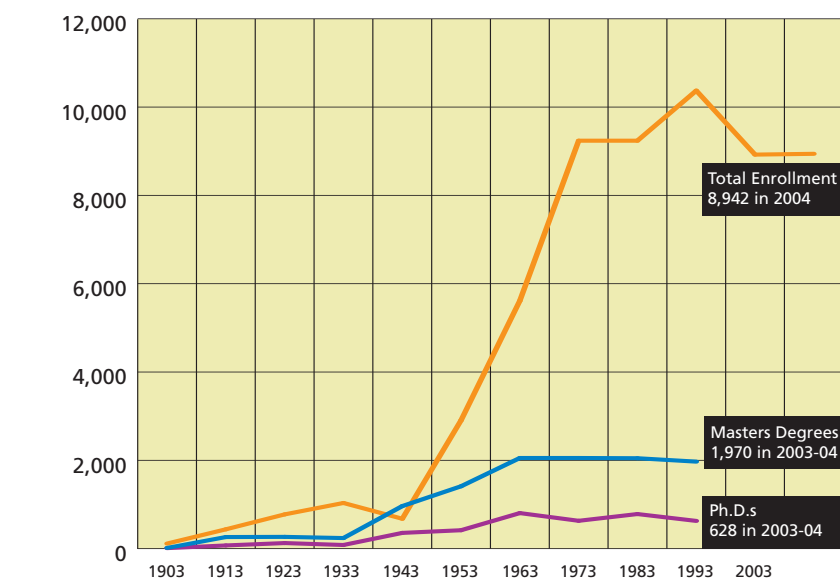
provided ways to expand course content. Improved sound and audio-visual equipment made it feasible to build larger classrooms to hold the increasing student population. Smaller and less expensive computers provided faster and more efficient means to compile and manipulate data by the end of the 1950s, a trend accelerated by the development of even cheaper personal computers 20 years later.

Foundation and federal grants helped fuel the growing internationalization of the University's activities. In the 1950s, grants from the Ford Foundation and the U.S. Agency for International Development provided funding for graduate training programs in economics, engineering, teaching, public administration and land reform in developing countries around the world.

These outreach training programs raised awareness of international issues at the UW campus. As faculty members in Agriculture, Education, Engineering, and Letters and Science returned from these training programs in Asia, Africa and Latin America, their experience enriched the content of their courses.

External funding increased the development of foreign language instruction and interdepartmental area studies programs at the university. A thriving African studies program was able to offer training in a number of sub-Saharan African languages through Carnegie Foundation funds. In 1964, the UW Department of African Languages and Literature was authorized to grant a Ph.D. in that field, the first in the country to do so. By 1970, the university was offering instruction in 54 foreign languages, most of them added to the curriculum during this period.

The late 1960s and early 1970s also saw a growing commitment to interdisciplinary graduate education at UW-Madison. In 1967, an ad hoc faculty committee established an experimental Institute for Environ-



Graduate Enrollment and Degrees 1903-04 to 2003-04

mental Studies as a Graduate School research program; the experiment became permanent in 1970, and today the Gaylord Nelson Institute for Environmental Studies provides interdisciplinary training to hundreds of graduate students.

Not long after, in 1975, the Women's Studies Program was founded. It offered a certificate for the first time in 1980, a Ph.D. minor in 1984, and rapidly developed a reputation for high-quality, interdisciplinary training.

As UW-Madison's academic reputation as a major research university grew in the last half of the twentieth century, graduate student enrollment rose dramatically. Enrollment in 1953-54 was 2,906. In 1993-94 enrollment skyrocketed to 10,372.

Graduate programs continue to attract large numbers of international students to the UW campus: 2,239 students from nearly 100 countries were enrolled in 2003-2004.

The tremendous breadth of academic resources at UW-Madison offers students a wide selection of supporting course work and interdisciplinary opportunities.

For example, 156 majors offer masters degrees, and 110 majors offer doctoral degrees. UW-Madison ranked second nationally in the number of doctoral degrees conferred in 2003-2004.

What a difference 100 years makes! ■

Success Story *continued from page 1*

to the university in the form of an unrestricted, annual grant.

■ It cares deeply about graduate education. This fall, nearly 9,000 graduate students are enrolled at UW-Madison, more than 2,000 of them from countries around the globe. Through its various fellowship programs, the Graduate School will provide more than \$6.5 million in financial support this year to graduate students.

■ It leverages external research dollars. From its earliest days, the Graduate School has been clear about its mission to help faculty attract resources that will permit them to maintain their status as among the best in the world. As a result, in recent years the university has consistently ranked among the top five in the country in terms of total research expenditures.

■ It "lives" its democratic principles. In 1904, the newly fledged Graduate School appointed a faculty-dominated administrative committee to make decisions about graduate education and research issues. Since then, faculty have remained central to decision-making in the school.

The next 100 years promise to be as vivid and groundbreaking as the first. I feel honored to be in the dean's office at this historic moment and to have the opportunity to continue the philosophy that has made the Graduate School such a critical part of the University of Wisconsin. ■

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Graduate School statistics

University and Graduate School reports to the President



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