

Annual Report of the Graduate School 2010-2011

1.0 CHANGES IN SERVICE ENVIRONMENT

Two changes directly affect the funding of graduate students. The first is that for the first time the GSSP is running a deficit, and the second is the potential threat of a significant reduction in tuition remissions by the state legislature, not just in this budget cycle but in future cycles. The effects of these changes could be far-reaching, an inability to reach enrollment targets, loss of competitiveness for the best students, late-career students who must withdraw because funding cannot be extended, a significant reduction of international students, etc.

2.0 GRADUATE SCHOOL INITIATIVES

2.1 **Professional Development of Graduate Students: Preparing Future Leaders.**

Preparing Future Leaders (PFL) is The Graduate School's professional development initiative, serving both graduate students and postdoctoral scholars in three focus areas: career skills, teaching and mentoring, and responsible conduct in research. In 2010/11 PFL offered 136 events, workshops and seminars with a total attendance of 3016: 2263 graduate students, 535 postdoctoral scholars, and 218 other participants. Sixty-four of the events focused on career skills, 67 on teaching and mentoring, and 5 on the responsible conduct of research. Twenty-seven graduate students completed Preparing the Professoriate, 48 the Certificate of Accomplishment in Teaching, 4 the Mentoring and Teaching Practicum, 21 the Graduate Leadership Development Series, and 4 participated in the pilot Certificate in Career Skills Development program; 38 postdoctoral scholars completed the Certificate in Teaching Techniques. There were 1723 participants in the career skills seminars, 1127 in the teaching and mentoring workshops, and 166 in the responsible conduct of research events.

2.2 Professional Science Master's (PSM) Degree Programs. The Graduate School established 2 new PSM programs, 1 at NC State and 1 at UNC Greensboro/NC A&T State University, while additional 4 programs (3 at NC State and 1 at UNC Charlotte) have been developed and are ready for final approval at UNC General Administration. Planning and feasibility studies continue on 24 other programs. To further encourage PSM programs at NC State and across the UNC system, we created the NC State PSM Council and the UNC system-wide PSM Operations Group. One of the milestones from the NC State PSM Council has been the development of a university-wide sustainability plan for PSM programs and other programs. Recently, the National Governor's Association recognized the UNC PSM effort and highlighted the UNC system-wide PSM Initiative in their report "Degrees for What Jobs?" As an example of our national leadership we have launched a new PSM group called the System-Wide, Statewide & Regional (SSR) PSM Operations Group with members from 10 states. We have also hosted international and national workshops in non-traditional graduate education and employer alliances. We developed online PSM tools for advertisement, data management, and academic planning and were awarded approximately \$1 million in various grants.

2.3 Support for Postdoctoral Scholars. The Graduate School's Office of Postdoctoral Affairs (OPA) offered 10 Professional Path programs, 9 Career Coaching seminars, and 12 Certificate in Teaching Techniques (CITT) programs, many co-sponsored with PFL. Attendance for postdocs was 532. Twenty-eight postdocs completed the CITT program. Nine postdocs attended the 5-hour "Career Skills and Practice Drills" workshop where they received coaching in interviewing skills, résumés, CVs, cover letters and networking. The new Postdoctoral Scholars Regulation (REG 10.10.8) resulted in the transfer of most of the postdoctoral human

resource functions to the Integrated Support Services Center and OPA. *The Scientist* named NC State as one of the top 40 places for postdocs to work, the first time NC State has been included.

2.4 New Graduate Programs. The Graduate School initiated approval of **4 programs:** Master of Science and Master of Biomanufacturing, Master of Nanoengineering, Master of Electric Power Systems Engineering, and Master of Climate Change and Society; **2 certificates:** Nanobiotechnology and Mathematics; **1 articulation agreement:** MBA with JD at Campbell University; and the **consolidation of 2 degrees:** MA in French and MA in Spanish. We implemented **5 additional programs:** Animal Science (DE); Business Administration (DE); Horticultural Science (DE); Nutrition, Food and Feed Science (DE); Family Life and Youth Development (new MR, MS; add DE), and **9 additional graduate certificates:** Mathematics, Administration and Leadership in Family and Youth Programs, Environmental Assessment, Family Life and Parent Education, Family Life Coaching, Gerontology, Textile Supply Chain Management, Volunteer Management and Administration, Youth Development Leadership. We continued to manage the approval process for 3 Ph.D. and 2 master's programs at UNC-GA.

2.5 Partnerships with International Entities. We had 48 students in various 3 + X master's programs. Participating universities were Zhejiang University and Donghua University in China and National Chiao Tung University in Taiwan. We are working on approval for a 3 + X program with Beijing Institute of Technology.

2.6 Growing Enrollment. The Graduate School processed about 13,500 applications, an increase of 5% over last year. In addition, during 2010-11, we managed the dispersal of approximately \$4 million in 33 different fellowship/grant programs for 383 graduate students, including 123 University Graduate Fellowships. We also awarded \$100,000 in matching funds to 44 graduate programs to enhance recruiting and visited over 29 recruiting fairs nationally.

2.7 **Graduate Program Evaluation.** The Graduate School managed the external reviews of 8 programs and conducted post-review meetings for 9 programs. Outcomes assessment of graduate programs continued, with 17 programs submitting biennial reports.

2.8 **Publicizing Graduate Education.** The Graduate School participated in the third annual Graduate Education Week on March 21-26, including the annual student research symposium, seminars and workshops, a service project for Habitat for Humanity, and recreational opportunities. Following a proclamation by the governor that honored graduate education, selected students from 20 universities across N.C. presented posters for state legislators at the legislative building on May 25.

2.9 **Improved Interface with Graduate Programs.** The Administrative Board of the Graduate School (ABGS) increased the consistency of rules defining advisory committee administrative structure and clarified transfer of 400-level courses taken as an undergraduates. The ABGS addressed several proposals: (1) establishment of a graduate student grievance procedure, (2) simplification of full-time rules, and (3) explicit statement of the rights and privileges of inter-institutional faculty on advisory committees. To simplify administrative procedures and enhance efficiency, we proposed the conversion of REGs to RULs and changed the criteria defining the curricula change requests, resulting in a reduced workload.

2.10 **Operations and Fiscal Affairs.** *University Business* recognized the admissions unit of the Graduate School as one of the nation's 12 models of efficiency for its innovations in admissions technology. In addition to its core functions, the Graduate School launched new initiatives: (1) implemented online exam and curriculum change forms through SIS in order to increase efficiency; (2) consolidated residency reclassification actions; (3) created a Web-based Strategic Research Fund Management System; (4) implemented a new exit survey; (5) made

enhancements to the admissions system, GSOARS, commencement attendance management system, RightNow CRM system, and the Centers & Institutes Reporting & Tracking System to achieve greater efficiencies; (6) converted the ten-year graduate program profile to a more robust, usable report; (7) collaborated with other units to design and develop an electronic system for document tracking and storage for new graduate and undergraduate programs for implementation in summer 2011; (8) reviewed the graduate faculty status for all course sections to ensure SACS compliance; and (9) developed and implemented a new ETD approval process.

3.0 DIVERSITY: INITIATIVES AND PROGRESS

3.1 **Visitation Programs:** Forty-one students from 29 disciplines and 19 colleges and universities from across the country participated in “Visit NC State Day, as a result of which over half who previously had not considered NC State indicated they would strongly consider applying. Also, the Graduate School, in collaboration with the Office of Diversity and Inclusion and UNCF, continued to implement Cultivating High Achieving Motivated Professionals and Scholars (CHAMPS). Thirty-four students from Benedict, Claflin, Fisk, Johnson C. Smith, and Xavier visited the university to learn about graduate educational opportunities. UNCF provided NC State with a matching grant of \$17,000 to help cover the costs of the CHAMPS program.

3.2 **NSF AGEP.** This year we had (a) 9 students in the Academic Year Research Experience, (b) 1 in the Summer Undergraduate Research Experience, (c) 8 in the Bridging program. A total of 34 past AGEP participants have completed their Ph.D.’s. We continued to recruit students in Puerto Rico; 10 who were introduced to NC State either directly through AGEP or through AGEP partnerships are currently enrolled in graduate school at NC State.

3.3 **The North Carolina Alliance to Create Opportunity Through Education.** OPT-ED, also funded by AGEP, hosted a number of events, including OPT-ED Alliance day, which had 734 participants from 110 educational institutions.

3.4 **NIH Initiative for Maximizing Student Diversity.** We (a) recruited 5 new graduate students and retained all 35, (b) selected 4 additional faculty mentors to work with IMSD students, (c) organized and facilitated research lab visits for IMSD students to help with the selection process of identifying a faculty mentor and research lab, and (d) organized 9 professional development seminars to bring researchers and academicians from across the country to speak at NC State.

3.5 **Other Support for Recruiting and Retaining Minority Students.** We developed a new MOU with the University of Puerto Rico-Cayey and continued to partner with other institutions with which we have existing MOU's (e.g., Spelman College, Fayetteville State University, Tennessee State University) with the aim of recruiting outstanding graduate students.

4.0 FUND-RAISING

The Graduate School discussed at its spring 2010 meeting the possibility of having a single board that would serve the mission for both Research Innovation and the Graduate School. It is for this reason that the Graduate School Board of Advisors did not have a fall or spring meeting for academic year 2010-2011. Donations have significantly decreased this academic year to approximately \$5,960.00.

5.0 ADMINISTRATION: STAFF CHANGES AND ACHIEVEMENTS

5.1 **Staff Changes.** Meghan Bass was hired as receptionist/human resources assistant.

5.2 **Assistant Dean Lisbeth Borbye** published *Sustainable Innovation*, submitted 2 grant proposals and was awarded 3 grants for ~\$1 million. She gave presentations at 3 national

meetings and developed and taught a workshop in performance improvement.

5.3 **Associate Dean Michael Carter** published 2 co-authored articles and has another accepted for publication. He presented 3 conference papers, a keynote address, and 8 workshops. He consulted with the graduate school at King Saud University.

5.4 **Interim Assistant Dean George Hodge** taught 3 undergraduate courses and 1 undergraduate lab, mentored 3 graduate students, chaired 4 non-thesis students. He was co-author of two research papers and one poster, and gave a paper at an international conference.

5.5 **Dean Duane Larick** is co-PI on a new GAANN training grant, served the Institute of Food Technologists in developing a Certified Food Scientist Program, conducted external Graduate School reviews at University of Kentucky, Auburn University (CGS) and University of Georgia (SACS), and presented many lectures and workshops in a variety of venues.

5.6 **Associate Dean Rebeca Ruffy** presented 5 research ethics workshops, 2 invited workshops at Appalachian State, and a luncheon address at a symposium. She organized the PhD Completion and Attrition Symposium and presented results from a national study by CGS.

5.7 **Assistant Dean David Shafer** was awarded 3 GAANN grants and received the NC State Advocacy Award from ACAAG students. He served Phi Kappa Phi on both local and national levels and was invited to give presentations at a variety of venues.

5.8 **Interim Assistant Dean Dan Willits** taught BAE 402, Transport Phenomena, and 4 sections of Research Methods for graduate students. He also served as DGP of BAE.

6.0 RECOMMENDATIONS AND CONCERNS FOR THE FUTURE

6.1 **Inadequate financial support for growing graduate enrollment.** The university has a goal to grow graduate enrollment, increasing its percentage in relation to undergraduate enrollment and increasing the percentage of doctoral to master's students. There are two

impediments to meeting that goal: (1) the number stipends for doctoral students and (2) the uncertainty in our ability to sustain GSSP support.

6.2 Insufficient funding to attract the best graduate students. The university's ability to be competitive for the best students is severely jeopardized by the size of the stipends we can offer to applicants and the acute lack of full fellowships we can provide in comparison with most of our peer institutions. This latter problem points a related challenge, how to increase substantially the endowment for graduate education.

6.3 Unfocused strategic planning for academic programs. The development of graduate programs continues to be somewhat haphazard, with no system for identifying the programs that demonstrate the greatest potential for growth in research and enrollment and for identifying programs that might be considered for elimination or consolidation.

6.4 Enhancing Interdisciplinarity in Graduate Education. Though much of the future of research and education lies in interdisciplinary programs, the administrative structure of NC State has proven to be an obstacle to these programs.

6.5 Funding Important Growth Areas in Graduate Education. The Graduate School is a national leader in providing professional development for graduate students and instituting Professional Science Master's programs. We see both of these areas as offering tremendous potential for enhancing graduate education, limited mainly by funding. These programs could attract major donors if marketed properly.

6.6 Graduate School Presence and Space. Housing the Graduate School in RBIII presents two challenges. First, there are more productive uses for the ~\$220K required for rent. Second, the location in RBIII is somewhat remote and doesn't offer the Graduate School the visibility needed to advance graduate education at NC State.

Additional Material

CONTRIBUTIONS TO ACHIEVING THE 5 STRATEGIC GOALS

1. Enhancing the success of our students through educational innovation:

Innovative professional development through Preparing Future Leaders (2.1); extending innovative opportunities through the development of Professional Science Master's degrees (2.2); administering funding to students through fellowships (2.6); broadening opportunities through diversity initiatives (3.0)

2. Enhancing scholarship and research by investing in education innovation:

Training in the responsible conduct of research (2.1); support for postdoctoral education and professional development (2.3); broadening research opportunities through diversity initiatives (3.0)

3. Enhancing interdisciplinary scholarship to address the grand challenges of society:

Increasing opportunities for interdisciplinarity through the development of Professional Science Master's degrees (2.2)

4. Enhancing organizational excellence by creating a culture of constant improvement:

Overseeing the approval of new graduate programs (2.4); providing administrative improvements through the development of policies for graduate education (2.9); improving efficiencies in services to the graduate community (2.10)

5. Enhancing local and global engagement through focused strategic partnerships:

Extending engagement to industries through Professional Science Master's degrees (2.2); development partnerships with international universities (2.5); expanding opportunities through diversity initiatives (3.0)