

Executive Summary
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**The Case to Increase the Support of Doctoral Students Across the
New Brunswick-Piscataway Campus of Rutgers, The State University of New Jersey**

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Graduate student education and research are central to the mission of a research university and a measure of the excellence of that institution. Doctoral students are students first, and it is the responsibility of a research university and graduate programs to provide them with the background and guidance they need as they evolve into scholars. Graduate students play important roles in the research mission of the University and help to recruit and retain research-active faculty members who want to work with and teach talented graduate students. At the same time, graduate students serve as instructors of undergraduates in laboratory, discussion, and skill sections of introductory courses, with the most experienced graduate students developing their own advanced courses for undergraduates. Often graduate students also participate in the service mission of the University. Graduate students bring enthusiasm and intellectual vitality to the university community and models of success for undergraduate students. Not least, the graduate students go forth to take up positions in industry, government, and academia from which they not only contribute to society but also refer others back to the place in which they did their graduate work. They become some of our best recruiters of future graduate students and advocates of our research.

The graduate students who play some of the most central roles are those working toward the Ph.D. degree. They are highly recruited nationally and internationally. It typically takes five to seven years of full-time study and research to complete a Ph.D. degree, requiring graduate students to put future careers on hold. Few students have the personal or family resources to support themselves for so long, while simultaneously maintaining the immersion in their studies necessary for their full development as independent researchers and teachers. For that reason, at all research universities, it is considered essential that “full” support for at least five or six years be provided to doctoral students. Given the cost of living, the alternative paths students can choose, and the international competition for these students, the support provided must meet minimal standards for decent maintenance, health insurance, and remission of tuition and fees.

However, at Rutgers, and in particular on the New Brunswick/Piscataway campus, graduate education faces considerable challenges because of the quality and quantity of support provided to graduate students at all stages of their studies. These challenges not only compromise our ability to rise to the next tier of public research universities, but if not corrected may compromise our ability to sustain the current level of excellence. This report documents the need to enhance the support of Ph.D. students in all forms, throughout their careers as students, across the New Brunswick/Piscataway campus, and proposes a timeline for significant increases in the quality of support we provide. The arguments address concerns shared by deans and faculty members across the campus, and include data from programs at peer AAU research universities.

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A. Principles and Challenges

The following goals guide the case we are making to enhance the financial support of Ph.D. (doctoral) students:

- Provide compensation packages, including medical benefits and tuition and fee remission, sufficient to enable doctoral students to live decently in the local area, for the duration of a typical course of study, with minimal impediments to focusing on their studies and research;
- Provide compensation packages and funds to recruit doctoral students that address the competitive pressures we face and enable us to attract the most talented candidates for doctoral studies;
- Remove barriers that deter faculty members from supporting doctoral students on external grants and contracts, including training grants;
- Provide sufficient resources to ensure that all doctoral students can be offered at least minimal teaching experiences.

There are several challenges to following these guidelines:

- High cost of living in the New Brunswick/Piscataway area and on campus

Currently, on-campus housing for a single graduate student is 44% of the gross minimum salary of a teaching or graduate assistant. On-campus housing costs increase much faster than the cost of living in the local community, averaging 7% per year in recent years.

- Insufficient resources to support Ph.D. students on University fellowships

Only a fraction of first-year, and a tiny fraction of dissertation-year, Ph.D. students are currently supported on fellowships. Because the budgets for fellowship stipends have not risen as rapidly as the increases in the cost of living and the stipends in peer programs, the number of students supported on University fellowships has decreased over the past decade, as resources are cannibalized to offer fewer students fellowships with higher stipends. Additional funds are needed in the very near term to sustain minimum stipend levels above the cost of living, provide stipends that meet the competition, provide health benefits for fellows, and to provide fee remission (or to provide higher stipends to compensate for lack of fee remission). In the longer term, additional funds are needed to increase the number of students supported on fellowships in their first, and in many disciplines also the final, years of study.

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- Insufficient number of teaching assistant positions

Teaching assistants (TAs) play a central role in the delivery of undergraduate education at a research university, providing trained and committed instructors for discussion, laboratory and skills sections associated with large courses. Experienced TAs often teach their own courses. Support as a TA is also a key component of graduate student support, complementing support on a fellowship or on a research grant, providing the scholar in training with the skills required for success within the academy, as well as outside of the academy where a high level of communication skills is expected. However, at Rutgers we lag far behind our peer AAU public universities in the ratio of TA to tenure-track faculty positions. Many units do not have the resources to offer the small sections normally associated with large undergraduate courses that would ideally complement the lecture format. Much of the current small-section teaching is being done by part-time-lecturers, who often are graduate students who may not have the benefit of close interaction with faculty members that teaching assistants enjoy. Finally, we are far from the number of TA positions needed to encourage all Ph.D. candidates to have a teaching experience as part of the requirement for the degree.

- Insufficient number of graduate students supported on research and training grants

Support on external grants, either as a graduate research assistant (GA) or on a training grant, is also an important component of doctoral student support, especially in the sciences and engineering. However, the cost to support a GA on an external grant is perceived to be high, because to support a GA requires salary and fringe benefits and overhead, as well as tuition and fee remission, with tuition charged quite often at the non-resident rate. Therefore, faculty investigators either find it difficult to identify sufficient resources to provide the full support for a GA, or prefer to support a post-doctoral scholar. An alternative form of external support is via a training grant, but faculty members often find it difficult to develop successful, competitive proposals for such funding. Therefore, it is appropriate to reduce the barriers and thereby encourage more faculty members to support graduate student GAs on their grants, as well as provide the infrastructure to help them develop competitive training grant proposals.

- Insufficient resources to recruit top doctoral students and support their research and studies

Currently there is a very small investment in funds to recruit new doctoral students, including those with backgrounds that have traditionally been under-represented in graduate education and research. To attract these students requires funds to bring them to campus, as well as to provide packages of support that are competitive with peer programs at other institutions. These support packages must include not only 5 or 6 years of basic support, but must also include opportunities for support during the summer, modest research accounts, and access to funds to support their travel, for example to develop dissertation proposals or for archival or field special study or to present their research at professional conferences.

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B. Proposal to enhance support for doctoral students over the next decade

The elements of our proposal include the following key items:

- Increase by at least 250 the number of TA positions in New Brunswick/Piscataway

This proposal could be realized by providing tuition and fee remissions and extra monies to existing state lines, as well as making the case to the State for additional lines to enhance the delivery of undergraduate education. At the same time the salaries, including competitiveness pool enhancements, would need to increase to compensate for increases in the local cost of living.

- Adopt policies and resources designed to increase the number of doctoral students supported on external research and training grants

This proposal could be realized by communicating realistic costs of supporting a graduate student, and at least some reductions in the tuition and fee charges, including only charging in-state tuition for students supported on external grants. In addition, sufficient tuition remission resources would need to be available to provide remission when a funding agency does not provide such remissions or when support for an individual student is coming from several sources. To encourage training grant applications, a grants specialist should be supported who would work closely with the Graduate School and individuals or groups of faculty members in developing competitive proposals.

- Dramatically increase resources to support graduate students on fellowships:
 - To sustain stipends at competitive levels,
 - To provide health benefits and fee remission,
 - To increase the number of fellowships.

The first phase of the proposal would be to provide sufficient resources to sustain stipends above the cost of living, and to start to address stipend pressures in the most competitive programs. This phase needs to be enacted immediately to stop the erosion of the number of students supported on fellowships. At the same time, health benefits for all fellows need to be phased in over the next few years, as recommended by several university committees. In future years, we propose to start to increase the number of fellowships towards the goal that all first year Ph.D. students would be supported on fellowships, with a sufficient number of dissertation fellowships to meet the needs in appropriate disciplines. Funds for new fellowships would come from a dramatic increase in endowed funds for graduate student fellowships, targeted in the next capital campaign, as well as University resources.

- Increase funds to recruit high-quality doctoral students and support their research and study:
 - Funds for programs to support on-campus visits and other recruiting activities for prospective students,

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- Funds to enhance support packages, including summer support and research accounts, for students in competitive programs for which this is the national norm,
- Travel funds for pre-dissertation research or special study and conference travel.

We propose that the University significantly enhance its investment in doctoral education by providing considerably more funds to recruit highly-talented students to the most Ph.D. competitive programs. Such funds would include direct support of program efforts to recruit new Ph.D. students, including bringing prospective students to campus, as well as supplemental funds to enhance support packages, such as summer compensation or research accounts, that address competitive pressures. Additional funds to support travel could come from increases in private funds associated with the next capital campaign.

C. Ten years from now

When this proposal to increase the support of Ph.D. students is realized, we will have increased our success in attracting the top doctoral students to our programs of highly-talented faculty members, while at the same time attracting and retaining faculty members who want to work with these students. Our Ph.D.s will then go on to faculty positions or work in the research institutes at the frontiers of discovery or serve in government or industry or non-profit organizations. Their success, in turn, will help to attract future cohorts of doctoral students who will repeat the cycle. In this way, Rutgers – New Brunswick will come to be recognized as one of the top public research universities.