

Research Futures
A framework for investing in research at Lehigh University

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Growth brings new opportunities to live out our identity as a student-centered, globally engaged, research university. One major opportunity lies in new university-wide investments in research and expansion of the faculty and staff. Making the most of this opportunity will require clarity regarding what we intend to achieve, and application of the talents, creativity and commitment of our faculty, staff, and students. The opportunity to invest in people, organizational capacity, and programs should be understood as an invitation to creative action. This framework, grounded in and extending upon the work of the [Spring 2016 faculty Task Force on Research](#) and the [companion report of the Task Force on Graduate Education](#) is intended as a guide to such action.

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I. A vision for research at Lehigh

We envision a lively dynamic, befitting our navigation through times of rapid change which can not be ignored, imperatives to work across disciplines in newly productive ways,² and the vibrant intellectual environment we want for ourselves and our students. There should always be people exploring and testing new ideas, always some startups working to grow their programs, and a healthy number of areas - some strikingly interdisciplinary - in which we're widely known. We should be perennially unsettled: the most well-established groups should know that they can't ever rest on their laurels.

Strength in numbers, and in diversity, supports creation of fertile environments for individual as well as team-based endeavors. Outstanding individual work can be done under a collective umbrella in which colleagues support and challenge each other, take collective responsibility for their students, and share resources and relationships. And the health of a dynamic environment, in which we fully expect our collective strengths to evolve, depends critically upon new influences, intrusions, and wholly new conceptions. Our success will require substantial agility and adaptability, a willingness to experiment, and an ability to act on opportunity. Yet one important outcome is the ability to support long-term, sometimes contrarian, research that we believe to be important in the long term whether or not it is fashionable in the moment. As scholars, we don't abdicate to the marketplace.

¹ The author is grateful for the critical, constructive comments and important ideas provided by Lehigh colleagues. Any document describing the shared intentions of an academic community is more a work of transmission and interpretation than de novo authorship. Use of the collective *We* denotes intent to faithfully represent our shared aspirations. Ultimately, goals should be jointly owned.

² For examples, see the National Science Board's recommendations on "convergence research," the National Science Foundation's embrace of those recommendations in its new requirements for Engineering Research Centers, and the joint National Academies report on humanities-STEM integration. These are examples of calls for interdisciplinary work that truly challenges existing boundaries.

Our vision for Lehigh as a global research university includes a research portfolio characterized by excellence, intensity, and relevance in the world, and which serves as a platform for an outstanding education. Specifically, we aspire to

- Excellence in everything we do. Our work should merit the highest admiration of our academic colleagues.
- Coalescence of faculty members around areas of collective strength. These should become fertile, supportive, and intellectually generative environments for our faculty and students,³ and attractors for new faculty and students who consider joining us.
- Public value. We should earn the trust and appreciation of non-academic communities, be they professional communities of practice, governments, industries, lay communities, or non-profit organizations. We should merit, and maintain, relationships that bring new insight to our work and new opportunities for our students.
- Value to students. The research environment and the relationships it secures should serve as the foundation for an unparalleled experience for students at all levels.⁴

In addition to creating a vibrant environment for ourselves and our students, we claim an essential and irreplaceable role in society. We don't purport to do what other actors in society are equipped to do themselves. The enduring value of our research lies in taking on the deep, difficult questions that others aren't equipped to address, or given their circumstances, aren't in a position to notice; in our freedom to go wherever those questions take us; and in our multiplicity of disciplines and thought traditions. Our collective enterprise should provide knowledge and insight that others need to succeed in their own strivings.

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³ Wherever "students" is used here, we refer to undergraduate and graduate students as well as postdoctoral fellows and other trainees.

⁴ Independent student research, and involvement in faculty-led research, are just the beginning of how being part of a community of inquiry should shape our students' educations. The richer our networks of relationships, and the more experiential and inquiry-based education we offer, the more possibilities emerge.

II. Imperatives for change and growth

Our vision for research is wholly consistent with established Lehigh values: collegiality and collaboration, an ethos of engagement with communities of practice combined with valuing high quality scholarship, and a commitment to a challenging and empowering student experience. Full realization of the vision will also require significant change and growth.

With the intent of eliciting ideas for practical action, which can then become targets for investment, the examples below are described in terms of questions to be addressed. These elaborate upon the areas for growth identified by the 2016 Faculty Task Force on Research.⁵ In some cases, direct investment to effect change may be warranted. In others, investments might be used in ways that facilitate change that doesn't inherently require new resources but is unlikely to happen on its own.⁶

1. Structuring and focusing faculty time. What changes in how we support and conduct research, in how we teach, in the design of educational environments and programs, in roles played by faculty and staff, would make more effective use of everyone's time?
2. The foundation of excellence. What comprises an environment in which people are awed by the substance of their colleagues' work, in a way that raises the level of everyone's endeavors? How might we construct and grow such environments?
3. Leadership and other critical personal capacities. To support the dynamic we describe in our vision, what capacities need to be developed in members of our faculty and staff? How might we support their development, and ensure that contributions critical to our collective success are rewarded?
4. Cultivating ideas and collective efforts. To support origination, cultivation, and growth of multi-faculty efforts, what venues for collegial exchange, and means to access critical resources are needed? What new habits are required? What means and metrics for reward and recognition would support the required behaviors?
5. Risk-taking. Once an opportunity, or even the importance of a question, is well-understood by others, it may be too late to establish a leadership position. How might we encourage first-of-kind efforts? What habits of thought and kinds of insight are needed to conceive such efforts? How are individuals and groups encouraged and equipped to act on those conceptions?

⁵ Categories identified by the Research Task force were structuring and focusing faculty time; support for interdisciplinary and public-facing work; collaborative development of research initiatives; risk-taking; and faculty development, mentoring and leadership.

⁶ An example of change requiring new investment is reconfiguration of physical spaces to enable greater efficiency and agility in their use. An example of investment to facilitate change is investment in research programs that challenge typical comfort zones in working across disciplines.

6. Agility. Opportunities of all kinds - for grant support, hiring, partnerships, etc. - develop and pass rapidly. How might we ensure that our academic environment supports the ability to pursue new opportunities?
7. Removing structural and habitual barriers. How might we recognize, and change, assumptions or rules that impose unnecessary constraints?
8. Global networks, venues and relationships. Many of the subjects we study need to be understood from global, and constellations of local, perspectives. And higher education and research are rapidly becoming global enterprises. How might we cement key relationships in both national global venues? How might we use these to learn new ways of working and develop new relationships?
9. Measuring success. Traditional academic measures – publications, citations, reputations – develop years after the behaviors and achievements that give rise to them. How might we measure progress in a more timely fashion?

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III. Investment goals

Investments in our research future must have high potential to leave behind something valuable and sustainable, constituting progress toward our vision:

- research activity of scope and duration well in excess of what is supported by the initial investment, and which serves as exemplars of success per our vision; and/or
- growth in human and organizational capacities, including earning of relationships and reputation

Investments that are pragmatic in their fulfillment of fundamental needs, as well as approaches that are creative in how they contribute to, or catalyze, institutional change and growth should be supported.

A successful proposal for investment must answer questions such as

- What do we expect to be different because of this investment, and when?
 - What new, sustainable, and valued activities will be ongoing? How will these be different from what others are already doing?
 - What valuable relationships will have been earned? How will our reputation be elevated?
 - What new capacities will have been cultivated in people?
 - What new organizational capacities will have been built?
 - What do we expect to have learned? How will that learning be incorporated into future work?
- What makes this a particularly wise investment?
 - How does it build upon strengths?
 - How does it overcome key weaknesses?
- How will we know when we've been successful?
 - How might we know early on how we're doing, so that we can change our approach or cut our losses?

Considering the pace of change, we expect the capacity to seed new research ventures to be a continuing need. One goal is to demonstrate to key constituents that such investments are worthwhile and that we can place them wisely. Nonetheless, the purpose of each individual investment is to leave something durable and important behind.

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IV. Investment targets

The investment categories below should not be seen as limiting. In each case, investments must meet the criteria identified under Investment Goals.

- Seed investments in research programs with high-potential to become examples of success per the Vision.
Example: Major research program investments similar to the current Accelerator program, with heightened expectations.
- Community-building, ideation, and incubation of ideas and programs
Example: Mini-grants for study groups, retreats, seminars, and other approaches to convening people and developing ideas.
- Assistance to the colleges in faculty hiring
Example: Assistance in assembling startup support for key hires.
- Growth in organizational capacity and infrastructure
Example: Development of stronger staff support for research in the colleges.

V. Process

Our process for deploying investments should adhere to the following principles:

- Receive ideas generously. There must be no shame in putting forth a novel idea.
- Maintain a bias toward action and experimentation. Look for ways to test ideas quickly, and commit to learning from every experience.
- Accept risk. Mitigate it by looking for ways to know how it's going. Long timelines can be OK as long as taken on knowingly.
- Be disciplined. Investments must have clear intended effects.
