UNL Research & Economic Development Growth Initiative
2012-2017
DRAFT Summary

Introduction

The University of Nebraska-Lincoln is ranked as one of the top U.S. universities in research growth over the last ten years. Faculty members have been publishing in top journals, pursuing large multidisciplinary center grants with greater success and making discoveries that are receiving national and international attention. This success provides a foundation for continuing growth in the coming years.

UNL remains committed to the excellence in research, scholarship and creative activity envisioned in the report of the Future Nebraska Task Force, "A 2020 Vision: The Future of Research and Graduate Education at UNL." (This report is available at: http://www.unl.edu/svcaa/documents/2020report.pdf).

In his most recent State of the University Address (available at: (http://www.unl.edu/ucomm/chancllr/sua2011/sua2011_3.shtml), Chancellor Harvey Perlman emphasized the need for increasing our academic stature and set ambitious goals for increasing our growth in research and economic development. The specific challenges presented by Chancellor Perlman include:

- To enhance the quality of research at UNL and increase total research expenditures to $300 million, with at least half of this coming from federal agencies.
- To increase the academic stature of the university and double the number of faculty receiving prestigious national awards and memberships in honorary societies.
- With the establishment of the Nebraska Innovation Campus, to increase the number of faculty working with scientists in the private sector and translating basic and applied research into innovations and job creation.

We are also committed to the research growth metrics set by the University of Nebraska Board of Regents, which call for UNL to increase research awards from federal agencies at a rate 20% higher per year than the national average, on a three-year rolling average.

The Office of Research and Economic Development (ORED), in partnership with department chairs, center directors, deans and vice chancellors, will assist faculty in meeting these goals and provide leadership, services and infrastructure that support growth in faculty research and creative activity at UNL. In many cases research excellence requires additional resources obtained through the pursuit of external funding. For example, external funding allows faculty to obtain more post-doctoral scholars, to hire graduate students and staff, and access other resources that allow faculty to do their best scholarly work.

The ORED's primary mission is to drive excellence in research, scholarship and creative activity, which is demonstrated in many ways, including research funding, book and journal publications, citations, national honors, patents, business start-ups and more. Monitoring the excellence of our faculty and university is an increasingly difficult task and UNL has developed a robust system for tracking research funding (NUgrant) and acquired licenses for using software systems (e.g., Academic Analytics, Elsevier products, Web of Science) that analyze our research productivity using various measures. In concert with the Offices of Academic Affairs, IANR and Institutional Research and Planning, the ORED will use these analytical tools to better understand UNL's scholarly strengths and relative market position among other research universities.

This campuswide initiative, in draft form, includes the 2017 goals as well as other expected outcomes, metrics, and some possible mechanisms for reaching them. Also included in this draft document are critical research infrastructure resources and needs.

Goals, Metrics, and Mechanisms

> **Goal 1:** **Enhance the quality and stature of research, scholarship and creative activity at UNL.**

Metrics:
- Increase total research expenditures to $300 million by 2017, with half coming from federal sources

- Increase the number of faculty engaged in extramurally-funded sponsored programs by 10% annually on a three-year rolling average

- Double the number of UNL faculty winning prestigious national awards and memberships in honorary societies

Subgoal 1
Develop growth plan for increasing total and federal research expenditures through 2017

Subgoal 2
Hire faculty with potential to provide leadership for major centers or projects and to fill critical gaps in research expertise, build critical mass and stronger interdisciplinary teams

Subgoal 3
Pursue large multi-million dollar center grant opportunities that fit the priorities of the University and the colleges

Subgoal 4
Enable pre-tenure faculty to establish high-quality research programs early in their careers

Subgoal 5
Engage Associate Professors and Professors not currently involved in funded research, where necessary

Subgoal 6
Acquire/invest in state-of-the-art research instrumentation and infrastructure to increase competitiveness

Subgoal 7
Increase sponsored program funding in the social sciences and arts and humanities disciplines

Subgoal 8
Assess campuswide technology infrastructure needed to support growth in research programs

Subgoal 9
Develop a process that promotes and supports award nominations

Subgoal 10
Recruit/hire faculty members who have already earned these prestigious recognitions

> ## Goal 2: *Increase the quality and quantity of industry-academia partnerships*

Metric:
- Increase private-sector funded sponsored programs expenditures by 15% annually

Subgoal 1
Increase research expenditures from private sector sources (companies, entrepreneurs, and investors)

Subgoal 2
Increase research expenditures from federally funded proposals designed for university-industry partnerships, technology commercialization, and university-centric economic development

Subgoal 3
Ensure that UNL's faculty policies support and encourage an increase in industry-academia partnerships

Subgoal 4
Create through Nebraska Innovation Campus attractive opportunities for private sector companies to build synergistic research teams with University faculty and to participate in the education of the next generation of graduates

Research Infrastructure and Resources

A critical factor in the major research success at UNL over the last decade can be attributed to the cutting edge instrumentation and research infrastructure that has been made available to faculty. This has helped us attract talented faculty and students and to impress funding agencies with our unique capabilities. Private donations through the University of Nebraska Foundation have been critical in renovation and new construction projects for research infrastructure at UNL. Nebraska Research Initiative funding for research core facilities and state tobacco settlement funds have also been helpful in building research infrastructure. Continued growth in research expenditures will require a continued emphasis on expanding research infrastructure and resources. A few of these important facilities and unique capabilities are listed below, followed by a list of new infrastructure that is needed.

Important existing research infrastructure & resources
- Biological Process Development Facility
- Center for Biotechnology Core Research Facilities
- Extreme Light Laboratory/Diocles Laser
- Holland Supercomputing Facility
- IANR Agriculture Research Development Center and Research and Extension Centers
- Laser Assisted Nano Engineering Laboratory
- Life Sciences Annex
- Mass Spectrometry facilities
- Nano Science Metrology Facility
- Nebraska Educational Telecommunications
- Nebraska Innovation Campus
- Nebraska Transportation Center Core Facilities
    - Midwest Roadside Safety Facility
    - Intelligent Transportation and Visual/Simulation Laboratories
    - High Bay Structures Labs

- State Museum of Natural History
- Transgenic Crops Field Testing Facility
- University Libraries
- Water Sciences Laboratory

Campuswide infrastructure needs
- Secure facility for defense research
- Space in the East Stadium for Center for Brain, Biology and Behavior and fMRI
- Life sciences space at Nebraska Innovation Campus
- Accelerator space at Nebraska Innovation Campus
- Space for new faculty hires
- Replacement space for research administration