

## BIOSCIENCE LEADER SPOTLIGHT



*In the spotlight is UNL Chancellor Ronnie Green. Upon UNL's 150th anniversary, Dr. Green outlined a **25-year strategic vision**, including a goal to be a catalyst for community growth, prosperity and cultural enrichment.*

**Q. Dr. Green, to catalyze growth, how will we leverage UNL's strengths?**

A. At Nebraska we are known for a culture of intensive collaboration and inventiveness and for doing research of exceptional significance. These are strengths we will leverage. By emphasizing partnerships on and off campus, we will guide creative energy into teams across and within many disciplines. As a large research institution, we have many complex goals. Going forward, we will commit sizable resources to grand challenges that require brilliant teams making breakthroughs in critical areas.

**Q. How do we align strategic needs of Nebraska with UNL's resources and assets?**

A. First, we engage with Nebraskans. We listen. Then we go to work on what we have learned to enhance what we do. As the land-grant university for our state, we are active in all 93 counties, and we are in constant engagement with Nebraskans. Our regular visits around the state – by me and other university leaders – show us how our scholarship and creative activity will matter. We are always interested in exploring the needs of Nebraska so we can do our part to address them.

A big vision also is key. We have considerable opportunities to broaden our research through “P4 partnerships.” These endeavors align public, private and philanthropic players to address grand challenges facing our state and our country.

**Q. Do we have enough multi-disciplinary centers? Are we ready for the future?**

A. We have seen success with our existing centers, and I believe we need more of them in the future. Some of our current centers include:

- Center for Brain Biology and Behavior Research;
- Food Allergy Research and Resource Program;
- Center for Digital Research in the Humanities;
- Nebraska Center for Materials and Nanoscience in the Voelte-Keegan Center;
- The Center for Plant Science Innovation;
- Nebraska Food for Health Center;
- Nebraska Virology Center

Other multi-disciplinary teams are formed from endowed programs in such areas as crops, energy, family well-being and human potential. Examples include our work on wheat and soybean genetics with Bayer and BASF and our centers for Plant Sciences Innovation, Energy Sciences Research with NPPD, Research on Children, Youth, Families and Schools, and the Clifton Strengths Institute.

We also have hubs that tie in the entire NU system, including the Daugherty Water for Food Global Institute, Rural Futures Institute and Food for Health Center.

Several new efforts are being led by Vice Chancellors Mike Boehm and Bob Wilhelm with Microsoft, in the areas of precision agriculture, education, and health, and by NSRI with Boeing.

P4 partnerships are successful answers to big opportunities. We will build more centers to address new and emerging challenges and will assess our current interdisciplinary centers on a five-year cycle.

**Q. How does public-private partnering benefit our state?**

A. Developing a statewide workforce is crucial. Agriculture and manufacturing

have traditionally hired agronomists, animal scientists and engineers. There is strong demand for UNL software and data science and for disciplined decision-making fostered in psychology and sociology. The University's extension mission continues to serve educational, agricultural and social needs in all 93 counties.

In industry development, Nebraska's companies, colleges and universities are incentivized to partner by the Business Innovation Act. From Blue Prairie in Scottsbluff to Sunseo Omega in Lincoln to Phibro Animal Health in Omaha, these partnerships are key to our life-science ecosystem.

Our facilities also are magnets of creative partnering. Nebraska Innovation Campus (NIC) is attracting companies to work with UNL, creating new technologies and services that benefit all Nebraskans, and beyond. The Biotech Connector at NIC, the state's first wet-lab business incubator, is a good example of industry, government and academia working together on facilities. Companies like Quantified Ag (cattle health), Virtual Incision (surgical robot), Children's Center for the Child & Community (childhood obesity), MatMaCorp (rapid detection of disease in livestock and plants), Jord Producers (insect protein) and many others are using NIC as a hub to network with NU expertise.

**Q. Can innovation be guided top down, or does it arise more spontaneously?**

A. Leaders nurture innovation by developing an environment and encouraging a culture conducive to it. Innovation will arise from those foundations. So, we guide it to some degree. However, innovation happens where smart, dynamic people are working in a collaborative way and have resources and intellectual freedom to pursue novel ideas.

Now seven years into its 25-year development, NIC is an example of putting the pieces in place for innovation. I am pleased to report completion of the new RISE building, now being filled around anchor partner Virtual Incision - a start-up company in surgical robotics emanating from Nebraska Engineering's Shane Farritor and his partners at UNMC. It is one of 15 startups involved at NIC since its inception. Today, the NIC footprint is 454,000 square feet and home to 30 partners, 16 university affiliates, and a total of 551 employees and student interns.

We are also excited about plans recently announced by the USDA to relocate two federal agricultural research agencies outside of DC - and we are working aggressively with our Nebraska partners to make NIC the new home of one or both.

We know we can be successful. Our history of innovation that leads to growing enterprises includes proven life-science companies like GeneSeek and LI-COR.

**Q. What can our life science companies do to be better at partnering with UNL?**

A. It is important to see the partnership as a long-term opportunity where all benefit most when the relationship is strong - when each member understands the perspectives of others and how they might differ from their own.

Folks in industry live their market urgencies day to day. In more fundamental science arenas, can a faculty member and graduate student help see the bigger picture? Conversely, can industry folks access the creativity of experts who live day to day on the leading edges of science and art? This really is an elegant connection with mutual and public benefit.

With NIC, plus our many creative centers of excellence, we have flexible mechanisms to deepen these partnerships. Companies can find university researchers who may be able to do something more effectively than they can by themselves. For example, our research facilities may have technology and equipment out of reach for small companies - a prime reason to partner with a university team. As companies grow, their needs - and potential - changes. Partnering is a meaningful and mutually beneficial tool. Internships can change lives and attract bright new employees. Guest lecturing, teaching a class, mentoring a startup or sponsoring seminar programs are ways to explore common ground between the worlds of business and universities.

**Q. In what ways can UNL enhance collaborations with the private sector?**

A. I defer to our collaborators to let us know more, but we do intend to be more internally connected. This will help us provide solutions with wholistic awareness of what other units are doing. Centrally accessible information will help us better apply UNL solutions to private-sector problems. We are also looking at expedited intellectual-property agreements through NUtech Ventures to streamline negotiations and technology transfer.

Most colleges are creating capstone classes, design studios and mechanisms for student-company interactions. We need to broadly promote the variety of ways that the private sector can engage with us, such as serving in adjunct faculty roles, advising a graduate student or undergraduate project team, giving seminars or serving as a mentor. Coordinating these points of engagement can leverage additional talent and return on investment.

We are certainly open for business and looking for new and innovative ways to partner with the private sector and Bio Nebraska members specifically. It is an exciting year for our institution, as we look back across 150 years and turn our attention to the many challenges of the future - some known and some yet to be discovered. What we do know is, when we work together, we increase our odds of achieving a great vision.