



September 2016 | Member Newsletter

Phil Kozera

Letter from the Executive Director



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Looking Back, Measuring Progress and Looking into the Future

September has been a month of reflection, celebration and promising activity. Thank you to all that attended Bio & Beers. We were privileged to be joined by Chancellor Ronnie Green, who shared his vision for the future of UNL and a few of their ambitious goals. UNL is a tremendous workforce pipeline for the biotech industry and we look forward to future collaborations.

I was very pleased to see two of our member companies honored. Ward Labs was recognized as Business of the Year by the Nebraska Diplomats. Ward Labs is located in Kearney and is a leading agriculture testing facility. Benchmark Biolabs was recognized by the Lincoln Chamber as manufacturer of the year.

"I encourage everyone to participate in Bioscience Week, October 3-7. Bioscience Week activities celebrate the significance of the biosciences industry and presence an opportunity to showcase our significant accomplishments."

Congratulations also to Orion Biosciences and Calidum Inc. for being chosen to participate in the inaugural University Startups Demo Day in Washington, DC. Orion Biosciences specializes in therapies for eye disease associated with autoimmune disorders. Calidum developed a compound used for more effective cancer treatments.

Bio Nebraska had the opportunity to exhibit during the 100th Anniversary of the National Association of State Departments of Agriculture annual meeting in Lincoln. The conference brought in state agriculture directors, staffers and government relations specialists from around the country. This was an excellent opportunity to showcase the biotech industry, specifically Nebraska's contributions to agricultural biotech, and the astounding role that farming, ranching and the agribusiness industry play in our state.

On the legislative front, national lawmakers return from summer recess with only a few weeks to advance legislation before adjourning until after the November elections. We are monitoring the Senate's package that's similar to the House's 21st Century Cures Act, which seeks to modernize the Food and Drug Administration and National Institutes of Health. In the Unicameral, Bio Nebraska is monitoring interim studies, ranging from the drafting of tax legislation to promoting career education, that are used to educate state lawmakers.

I encourage everyone to participate in [Bioscience Week, October 3-7](#). Bioscience Week activities celebrate the significance of the biosciences industry and present an opportunity to showcase our significant accomplishments. To see the full schedule of events, please access the calendar below.

Finally, we note with sadness and respect the passing of Bio Nebraska founding board member Prem Paul. Past and present association leaders reflect upon Prem's role in our bioscience community in this month's newsletter.

Best regards,



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Upcoming Events



[Bioscience Week](#)

October 3-7, Celebrating Nebraska's Growing Life Sciences Industry



[Heuermann Lecture with Mark Lynas](#)

October 10
Lincoln, NE



[Environmental Health & Safety Summit](#)

October 14
Kearney, NE



[Omaha Chamber Economic Outlook Program](#)

Speaker Edward Glaeser, Harvard University
November 15, 11:45-1pm, Century Link Center

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Bioscience Leader Spotlight



Prem Paul announces a Central Plains Research Data Center grant on March 9, 2015.

Bioscience Leader – Recollections of Prem Paul, A Founder of Bio Nebraska

“Prem was a giant amongst visionaries who believed that we UNL could and should be BIG on the research and creative activity world stage. I met Prem when I was the national program leader for animal production research for USDA in the early 2000s. When I came to UNL to assume the role of vice chancellor of IANR, on the first day on the job, Prem asked to get together with me. I distinctly remember it - on July 19, 2010. He had been in Lincoln for nine years by that time. He proceeded to tell me how badly we needed to renovate and expand our animal research facilities on East Campus - mostly targeted at biomedical research. He had been working on a plan to do this for a while with the faculty and it was to be roughly \$15M project. By the end of our meeting, somehow Prem had managed to get me to partner with him 50:50 to pull it off - which we did 18 months later. That was Prem - think BIG, build relationships with partners and get things done. That same experience was to be repeated numerous times over the past six years.”

Ronnie Green, PhD, Chancellor, UNL

“We were so fortunate to have had Prem Paul’s leadership and energy. He was focused, purposeful, respected by many and possessed a contagious optimism about dreaming big and what we can accomplish. His intelligence and engaging nature brought us together at on our own campus and among every campus. With Prem, it was always about others, he always passed out accolades about others. His impact will last for decades, and we will continue to build on his work to achieve his vision of research at UNL and all of the University of Nebraska. What a fine man, and it was a joy to be in the company of Prem and his bride, Missi.”

Jim McClurg, PhD, Chairman, Board of Directors Hudl, Former NU Regent

“While many think of Prem as focused on raising the amount of research dollars for UNL, he was most passionately focused on the power of research - to transform lives and build economic growth. It is why he quickly embraced from the outset the idea of BioNebraska, among other projects, to connect University research to the private sector. It was an easy decision for me when he asked that his title be changed to vice chancellor for research and economic development. Prem would never acknowledge to me whether he realized at the time that the acronym for his new title would be VC-RED!”

Harvey Perlman, JD, NU Law School, Former Chancellor, UNL

“Serving together with Prem on the Nebraska NSF EPSCoR Committee for several years (along with taking multiple trips together related to NSF EPSCoR), as well as serving together on the Bio Nebraska Board, has been a very rewarding and learning experience for me, not only professionally but also personally. I especially will miss the comradery of Prem and Missi in our travels together, as the two of them lovingly complemented each other in celebrating life together, perhaps exemplified by Prem’s love of ties and Missi’s joy of picking them out for him. Their joy as a couple, even in the midst of affliction, was contagious to all of us who had the privilege of sharing experiences with them.”

Lyle Middendorf, Sr. VP/CTO, LI-COR

“While I had met Prem before, the first time I really saw Prem in action was soon after I had been appointed vice chancellor. We, UNL and UNMC, were having a discussion about collaborations with a major commercial entity whose headquarters is in New York. He was late to the meeting, but I took note how quickly he had sized up and “worked” the room as soon as he arrived. Without any intent to mentor me, he served as an important role model for me as I started my job, including his always positive disposition, which he maintained until the end, even on less than positive days. He loved his job.”

Jennifer Larsen, MD, Vice Chancellor for Research, UNMC

“I have interacted with Prem a lot and he always was nice at all times. Even though he did not have to, he made it a point to let others know that he thought of them. As a simple example - I had asked Ryan Anderson with help in talking to a student on campus. When Prem found out that Ryan was going to meet me, he particularly told Ryan to make sure that his regards were conveyed. Prem did not have to do that, but the fact that he did tells he was a guy who cared for even small things.

Abe Oommen, PhD, President, MatMaCorp

Many others have recalled Prem and shared their thoughts and tributes.

BRINGING CHANGE, OPTIMISM AND COMMITMENT TO EXCELLENCE

Dr. Prem Sagar Paul, UNL vice chancellor for research and economic development, passed away Sept. 2 after a long battle with bladder cancer. Born Oct. 5, 1947, in a refugee camp in northern India, he was named Prem, meaning “love” in Hindi, for that is all his parents had after fleeing their home during the partition of India and Pakistan. Prem obtained a DVM in India and in 1969 came to the U.S., where he gained a PhD in microbiology and virology at the University of Minnesota College of Veterinary Medicine. At an international dinner, he met his future wife, Missi, and together they moved to Ames, Iowa, where Prem worked at the USDA National Animal Disease Center. He was recruited by ISU’s College of Veterinary Medicine and served as the associate vice provost for research. His combined experience as a scientist and administrator led him to UNL, where he was appointed vice chancellor for research and economic development on July 1, 2001. His accomplishments included ten patents, discovering a new virus in swine and developing a vaccine to treat it, and leading UNL to new heights in research. To gain a sense of his impact, [review this timeline of results](#).

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State News

OMAHA WORLD-HERALD: BD INVESTING IN PHELPS COUNTY

Medical manufacturer Becton Dickinson will invest \$100 million in its insulin syringe factory in Holdrege. Upgrades to the 650-employee facility will increase production capacity but won’t necessarily add employees, the company said. Becton Dickinson, based in Franklin Lakes, New Jersey, is a longtime Nebraska employer, with more than 2,500 employees in Holdrege, Broken Bow and two locations in Columbus.

LI-COR GROWS EARLY-PHASE cGMP OFFERING

Building on its expertise in reagent and dye production, LI-COR is expanding its services to include synthesis and conjugation services for early-phase cGMP production. “We have expanded our production facility to accommodate contract manufacturing for both pre-clinical and early phase clinical

applications,” said Bambi Reynolds, senior business development manager.

BENCHMARK BIO HONORED BY LINCOLN CHAMBER

Benchmark Biolabs & Antelope Valley Bios, related Bio Nebraska member companies that provide contract research and development of animal vaccines, were named Manufacturer of the Year in the Lincoln Chamber of Commerce’s annual Celebrate Business awards.

FIELD DAY DEMOS SOIL HEALTH PARTNERSHIP AIMS

Nebraska corn growers attending a field day saw how changing nutrient management, tillage strategies and cover crops may be a win/win for environment and production. “As a farmer, I have a strong interest in not only achieving good yields, but also in sustaining the productivity of my land for future generations,” said Greg Whitmore, whose Shelby farm was a demo site. Over a decade, the Soil Health Partnership will measure practices that improve soil health.

NOVOZYMES ACQUIRES GERMAN MICROBIAL SOLUTIONS FIRM

Novozymes has acquired microbial research company Organobalance GmbH, a specialist in developing natural microbial solutions for food, feed, and animal health. “Together, our solutions allow customers to produce more from less, reduce environmental impact, improve health and replace chemicals,” says Sebastian Søderberg, a vice president at Novozymes.

DAVID CONRAD NEW STRECK VP OF R&D

Streck has appointed David Conrad, PhD, to be its vice president of research & development. He was a Streck board member and on its scientific advisory committee. Conrad was assistant vice president for economic development at the University of Iowa. Prior, he was executive director of NUtech Ventures, and served as UNL associate vice chancellor for technology development.

TRANSGENOMIC AND VENTANA SIGN DATA AGREEMENT

Transgenomic has signed a data sharing agreement with Ventana Medical Systems, Inc., a subsidiary of Roche. Ventana will access DNA test results from research by Transgenomic and the University of Melbourne/Australia on Transgenomic’s new PCR technology. The aim is to study genetics and targeted cancer care.



DESIGNS APPROVED FOR UNMC’S SIMULATION TRAINING FACILITY

UNMC’s plans for a new medical simulation training facility moved forward when designs were approved by the NU Board of Regents. The Global Center for Advanced Interprofessional Learning is a \$102 million facility, estimated to create 325 jobs and generate as much as \$137.7 million in economic activity. Meanwhile, the Omaha City Council approved UNMC’s request for \$10+ million in funding for infrastructure changes around the facility, which will feature 3-D and virtual immersive reality.

SIGNS OF SLOW GROWTH IN EARLY 2017

Nebraska will experience slow economic growth in early 2017, according to the latest leading economic indicator report from UNL. The indicator, a composite of economic factors that predict economic growth six months into the future, fell by 0.32 percent in August. "The drop in this month's leading indicator negates a similar increase during July," said economist Eric Thompson, director of the UNL Bureau of Business Research. "Taken together, the leading indicator values for the last two months suggest slow economic growth in Nebraska at the beginning of 2017."

UNL GETS GRANTS FROM RAIKES AND GATES

The Nebraska Food for Health Center, a \$40+ million initiative, will bring together university strengths in agriculture and medicine. The Raikes Foundation of Seattle, co-founded by Nebraska native Jeff Raikes and his wife, Tricia, committed a \$3 million gift to the NU Foundation, which includes a \$1 million challenge grant. The Bill & Melinda Gates Foundation also made a \$2 million gift to support the center. NU President Hank Bounds said, "The Nebraska Food for Health Center is an example of what is possible when we put the collective strengths of our faculty to work to address critical challenges. I thank the Raikes Foundation and Gates Foundation for their vision and support, and I'm excited about the innovations that will result from this new collaborative effort."

GREEN: UNL MUST GROW INTELLIGENTLY

Smart growth was the centerpiece of Chancellor Ronnie Green's inaugural State of the University speech. Green drew a picture of the university in the year 2025: 35 percent larger, with 35,000 students; a doubling of research expenditures to \$600 million per year; and increasing diversity of students and faculty from other states, other nations and socioeconomic, racial and ethnic backgrounds. Transcript of the address is [online](#).

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National News

BAYER BUYING MONSANTO

Bayer and Monsanto signed a merger agreement under which Bayer will acquire Monsanto. The combined business will leverage Monsanto's leadership in seeds and traits and Climate Corporation platforms with Bayer's broad crop protection product line. Both companies are significant in Nebraska.

MONSANTO LICENSING CRISPR FOR AG-GENE EDITING

Monsanto Company has a global non-exclusive licensing agreement for use of CRISPR-Cas genome-editing technology in agriculture with the Broad Institute of MIT and Harvard. "The license to CRISPR-Cas provides access to an exciting tool for our growing body of genome-editing research," said Tom Adams of Monsanto. Genome-editing techniques present precise ways to dramatically improve the scale and discovery efficiency of new research into human health and global agriculture, added Issi Rozen of the Broad Institute.

MONSANTO/SECOND GENOME TO COLLABORATE

Monsanto Company and Second Genome will work together on new microbiome-based research. Monsanto has an extensive genomic database and Second Genome brings expertise in analyzing microbial function through big data metagenomics, protein discovery, machine learning, and predictive analytics. The aim is discovery of proteins for insect control. Monsanto has the option to pursue these commercial opportunities in agriculture while Second Genome retains rights to healthcare and other industries.



STATE AG OFFICIALS RENEW PARTNERSHIP TO ADVANCE AGRICULTURE

The National Association of State Departments of Agriculture (NASDA) opened its 2016 Annual by calling for a renewed commitment to a robust role for states in federal policymaking in the next administration and Congress. The state commissioners, secretaries, and directors of agriculture gathered in Lincoln September 21-24 to celebrate NASDA's 100th anniversary under the leadership of Nebraska Director of Agriculture Greg Ibach. NASDA's "Call to Action to 2020: Advancing Agriculture through Enhanced Partnerships" underscore the importance of cooperative federalism and a true state-federal partnership. To learn more about NASDA, visit www.nasda.org. Bio Nebraska was a sponsor at the event, as were a number of our member companies.

USDA APPROVES OKANAGAN'S BIOTECH ARCTIC FUJI APPLE

USDA APHIS granted deregulated status to Okanagan Specialty Fruits' biotech non-browning Arctic Fuji apple. The biotech apple was deemed "as safe and nutritious as conventional apples," according to the firm.

CHINA TO FOCUS ON BIOTECH CROPS

The Chinese government has invested into biotechnology research to develop drought-resistant corn and wheat, disease-resistant rice and soybeans that produce more oil, as well as in CRISPR gene-editing technology to create disease-resistant wheat and tomatoes, and leaner pork. "Agricultural biotechnology is one of the few technologies in which China is on an equal footing with the world's best," said Huazhong Agricultural University researcher Yan Jianbing.

CRISPR COULD ENHANCE APPEAL OF BIOTECH FOODS

Scientists can develop biotech fruits and vegetables that have better flavor and are more nutritious by using CRISPR gene-editing technology, according to Ginkgo Bioworks CEO Jason Kelly. CRISPR can make it easier for scientists to develop biotech varieties and create traits that appeal to consumers, Kelly said.

DRUGMAKERS COMMIT TO FIGHT AGAINST ANTIMICROBIAL RESISTANCE

In an effort to reduce antimicrobial resistance, 13 major drug makers, including AstraZeneca, Novartis, Pfizer and GlaxoSmithKline, made four key commitments to support by 2020. The announcement coincided with a United Nations meeting addressing antibiotic resistance.

MERCK SELLS RIGHTS TO CARDIOVASCULAR DRUG

Merck has sold the US and Canadian rights for its Zontivity, or vorapaxar, to Aralez Pharmaceuticals in an asset purchase agreement worth \$25 million. Zontivity is a protease-activated receptor-1 antagonist indicated for use in combination with daily aspirin and/or clopidogrel to reduce thrombotic cardiovascular events in patients with a history of peripheral arterial disease or heart attack.

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