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## April 2016 | Member Newsletter

Help spread the great news about Bio Nebraska. Please forward this monthly e-newsletter to others in your organization. If they want to get it too, I will add them to the list. Email me requests at: [phkozera@bionebraska.org](mailto:phkozera@bionebraska.org)

**Phil Kozera**

**Letter from the Executive Director**



Phil Kozera  
[phkozera@bionebraska.org](mailto:phkozera@bionebraska.org)

### Many congrats are in order this month

First, congratulations to Ronnie Green, vice chairman of Bio Nebraska. Dr. Green was selected the next Chancellor of the University of Nebraska-Lincoln. We are pleased to see his leadership and efforts recognized.

We also are pleased that NU President Hank Bounds has been installed into his job after a whirlwind year of touring the state and making visits across the NU system. He is setting high goals for the NU system, which will make for an exciting journey.

In the commercial world, one cannot under estimate the great challenges biotech companies face to get off the ground. In that vein we congratulate member company Benchmark Biolabs on expanding its Antelope Valley Bios manufacturing operation. Benchmark's investment in Lincoln increases its capacity for vaccine development and growth in job opportunities in for our state's animal-health industry and center of excellence in vaccine production.

Earlier this month, Amy Davis from Novozymes and Josh Johnson with Benchmark Biolabs joined me in Washington, D.C. We met with Senators Fischer and Sasse, as well as staff members for Reps. Fortenberry, Smith and Ashford. We appreciated their time to discuss issues impacting our industry and the significance of the biotech industry and the quality jobs it produces.

"We plan to honor the year's many accomplishments by members and our association on April 28 at TD Ameritrade Park. One part of our mission at Bio Nebraska is to build a strong ecosystem for the life sciences in our state to grow and prosper."

On the state level, we are excited to see LB 1093 and LB 1083 pass. Senator Mello amended Senator Morfeld's LB 987 and included the amended language in LB 1093. LB 1093's BioScience Steering Committee is made up of five senators who are instructed to work with Bio Nebraska to develop a strategy to grow the life sciences in Nebraska. Senator William's LB 1083 creates a task force to develop a statewide strategic plan for entrepreneurship. Both initiatives will positively impact our industry.

We plan to honor the year's many accomplishments by members and our association on April 28 at TD Ameritrade Park. One part of our mission at Bio Nebraska is to build a strong ecosystem for the life sciences in our state to grow and prosper. Resources we bring provide a venue for networking and conversations. It's through these connections that we discover the many efficient and effective ways we can help each other achieve progress.

Best regards,



Phil Kozera

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## Upcoming Events

-  [Bio Nebraska Annual Meeting](#)  
April 28, 5 to 7:30 pm,  
TD Ameritrade Park, Omaha
-  [Big Omaha Biotech Showcase](#)  
May 5, 5 to 7:30 pm,  
Upstream Brewing Company Old Market, Omaha
-  [Life Sciences on the Links](#)  
June 1, 1 to 6pm,  
Iron Horse Golf Course, Ashland
-  [BIO International](#)  
June 6-9, San Francisco, CA
-  [UNeMed Tech-Transfer Bootcamp](#)  
9 a.m. to 11 a.m.  
Tuesdays and Thursdays June 7-30
-  [Animal Health in the Heartland](#)  
July 20,  
Sorrell Center, Omaha

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*Dr. James Linder, president, University Technology Development Corporation (UTDC).*

## Leading NU efforts to create a better, safer world.

This month the spotlight shines on James Linder, president, University Technology Development Corporation (UTDC). UTDC subsidiaries include NuTech Ventures, UNeMed, Nebraska Innovation Campus, Medical Center Development Corporation, Kearney University Village Development Corporation, National Strategic Research Institute and the Nebraska Applied Research Institute. Dr. Linder recently served as interim NU president. He was previously CEO of UNeMed at UNMC, where he is also professor of pathology and microbiology and has been on the faculty since 1983. He has held many administrative leadership positions within NU.

He is widely published, holds multiple patents, sits on several journal editorial boards, is a leader in many professional medical organizations and is recipient of many awards for teaching, publishing and industry service.

His extensive business experience in the commercial diagnostics sector includes leading, founding and venture investing into numerous companies. Linder's interests have centered on medical diagnostics, including immunodiagnosics, telemedicine and cellular imaging. He and his wife Karen A. Linder (an author, entrepreneur and angel investor) founded and manage Linseed Capital, which supports Midwest early-stage companies.

**"There are projects that tie into the scope of UTDC activities, such as the recent acquisition of the First Data property adjacent to UNO. That facility will allow us to build programs that support research relevant to commercial partnerships and national security. This is a project that you should keep your eyes on."**

**Q: Dr. Linder, what do you enjoy most about the roles that you have played at NU?**

**A:** I enjoy the ability to solve problems, and contribute to the success of others at many levels of the University — department, college, campus and system-wide. It is gratifying seeing new programs develop that support our students, faculty and the community. Being able to connect the University with entrepreneurial effort in the private sector is wonderful.

**Q: How has your background in business, academia and medicine helped you create these connections?**

A: Metaphorically, it is like being multi-lingual. I am able to understand the cultural nuances of the different organizations. Academia and business each have processes and values that underlie their functions. Having experience in both often allows me to bring deeper thinking to each. There is an enormous amount of business in academia, and solutions to many business problems can be discerned with a scientific approach.

**Q: Please describe your role as “chief strategist” for NU and your presidency of UTDC?**

A: The strategist role is project-based; I work on initiatives that may be complex because they involve different elements of the University or the private sector. Separate from my role, each campus has strategic plans, aligned with the Office of the President, that tie to the strategic framework of the Board of Regents. There are projects that tie into the scope of UTDC activities, such as the recent acquisition of the First Data property adjacent to UNO. That facility will allow us to build programs that support research relevant to commercial partnerships and national security. This is a project that you should keep your eyes on.

**Q: As you think about overall strategy, where should we be focused? Where do we have an edge in technical advancement?**

A: Inherently a university must focus on the areas where faculty have scientific and technical expertise. This is why ongoing recruitment is important. There are different strengths on the Lincoln, Omaha and Kearney campuses, and in the College of Technical Agriculture in Curtis. The initiatives in food production and management of water resources underway at Nebraska Innovation Campus are areas where Nebraska leads the nation. There is emerging strength in using computer-based simulation and virtual reality in education, and strong programs in in robotics and biomechanics. The National Strategic Research Institute is doing important work with USSTRATCOM and the Department of Defense. Our designation as one of only 15 University Affiliated Research Centers in the country gives us an edge to develop new vaccines and technologies to detect and reduce threats.

**Q: Several major initiatives fall under the UTDC framework. Some are well known; others less so. Do all of them get the credit they deserve? Which do you think should be better known?**

A: I group the development corporations in UTDC under three umbrellas: technology transfer, university-private sector development partnerships and specialized government research. Their contributions do receive the credit deserved from the University administration. There may be a difference in the media attention. For example, efforts that take many years to bear fruit may not yet be newsworthy. But, in 10 years we will see enormous economic impact from Nebraska Innovation Campus, UNMC’s development along Saddle Creek and the mixed-use activities at Kearney University Village. I am grateful for the leadership in all the subsidiaries, and especially appreciate the volunteer service of the private-sector board members, many of whom are Bio Nebraska members.

**Q: In academic circles, university systems sometimes are criticized for reducing focus on academic study and research and for deploying resources into commercial development. Can you be great both at teaching and at launching technologies?**

A: Most universities do succeed in blending education, academic scholarship, community service and commercialization of technology. It is a matter of having a faculty with diverse skills, financially supporting different missions, and then recognizing success in the role that each plays in the university. Good leadership makes that happen, and usually these areas build on each other. Basic research becomes applied to benefits for society, and students gain experience in research that is the foundation for their future career. So yes, NU is successful in these different roles. We are well aware that society benefits only after laboratory knowledge is applied to improve life and solve problems.

**Q: What do you think are the NU systems greatest successes in technology development and what new developments do you expect to unfold in the coming decade?**

A: Measuring success in technology development is as much of an art as it is a science. Do you assess gross revenue? Do you measure the overall economic impact on the state? Or lives that may be saved? I am hesitant to list individual successes, since I might slight others. Clearly, however, NU has made great contributions to crop science that have lessened hunger, which brings cascades of positive impacts for economic growth, reducing

poverty and creating political stability. In the coming decade I am optimistic that our contributions to agriculture will continue, that our early-stage drugs will become pharmaceutical breakthroughs, and there will be broad utilization of sensor technologies being developed in the physical sciences. It is great fun to see the work being done by our faculty, and in building deeper relationships with Nebraska companies.

**Q: What do you find most exciting about the future?**

A: I like change, and technology is a fuel that advances many aspects of society. I'm a scientist and pathologist by training, so I am excited about how technology can address problems with hunger, disease and the environment. For example, we have opportunities for increased food production, disease prevention, better diagnostic tools and new renewable resources. Solving these problems is never simple, but, usually, the market will identify those technologies with true benefit.

**Q: As a doctor, you are a pathologist trained to diagnose disease and indicate treatment. As a leader, you run multi-disciplinary entities that will help feed a starving world, enhance sustainable energy, grow IT jobs, enhance nutrition and health, cure disease and protect our world from weapons of mass destruction. So what do you do in your spare time?**

A: Golf is harder than any of the above activities.

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## State News

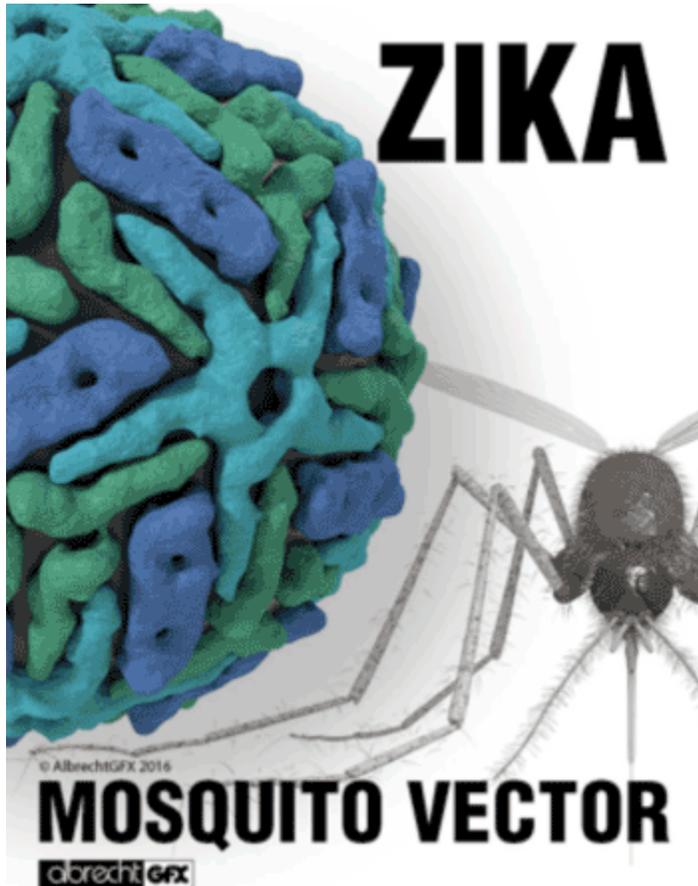


*UNL's Jiri Adamec is partnering with Brazilian officials to speed field tests for the Zika virus.*

### [Blood card used to detect Zika virus in tropical environments](#)

In 2014, UNL biochemist Jiri Adamec and colleagues introduced the Noviplex card, which separates plasma from a blood sample taken by the prick of a finger. After the sample is blotted on a small card, digital images of the

separated plasma go to a lab for analysis. If signs of disease are detected, the sample — which retains its integrity for weeks even in a tropical rainforest — is sent to a medical facility for more testing. Soon these cards will be distributed to eight South American countries to improve monitoring of Zika and possibly other health issues. Adamec and his colleagues, who developed their technology through their company Novilytic, received support from the National Institutes of Health. [UNL News](#)



*This graphic of Zika virus and Aedes mosquito known to transmit the disease virus is designed by member company AlbrechtGFX, which uses 3D graphics to convey complex ideas. Follow their [blog](#) or email [info@albrechtgfx.com](mailto:info@albrechtgfx.com).*

#### [State's economy predicted to grow](#)

The Nebraska economy should grow rapidly during the second half of 2016, according to the latest UNL leading economic indicator report. The indicator, a composite of economic factors that predict growth six months into the future, increased by 1.92 % in March. See the full report at [UNL Bureau of Business Research](#). "The rapid increase in the value of the leading indicator signals strong economic growth in Nebraska during the second half of 2016," said Eric Thompson, bureau director. [UNL News](#)

#### [Pro-business attitude keeps bringing large companies to Omaha](#)

Many are surprised to learn so many Fortune 500 and 1000 companies do business from Omaha. But David Levy, partner with Omaha law firm Baird Holm, said that the city has plenty to offer these big companies. "It's a combination of this being such a strong and vibrant metropolitan area of almost 1 million that remains a very livable place," Levy told a regional real estate trade magazine. "It's easy to get around. It's relatively affordable. But it has a large and fairly diverse and talented workforce. That's the kind of workforce that you get when you have two major universities in the city." [Baird Holm](#)

#### [VaxLiant eyes bioinformatics](#)

Nebraska firm VaxLiant is a joint venture between biologics development firm Benchmark Biolabs and animal health products distributor AgriLabs. Last year, the company gained [US safety approval](#) for three of its ENABL vaccine adjuvants. Tim Miller, company co-founder, said: "The next generation of vaccines and biologics will take full advantage of the expanding genetic and protein databases. Bioinformatics will play a key role. This data, combined with specialized delivery and adjuvant systems, will enable vaccines to become even more targeted, specific, and allow for more rapid responses and real-time solutions to emerging diseases." The firm's ENABL adjuvant can be added to vaccines to help improve the resulting immune response in cattle, poultry and swine. ENABL can reduce the amount of antigen used in a vaccine by around 5-20 times, thus boosting both safety and efficacy.

#### [Biomed startup licenses novel technology](#)

Calidum, Inc., was formed around an innovative approach for detecting and treating some of the deadliest cancers. UNeMed announced that the startup will exclusively license technology developed by Janina Baranowska-Kortylewicz, a professor and radiochemist at UNMC, and co-inventor Zbigniew P. Kortylewicz. Baranowska-Kortylewicz is CMO of the company. The novel compounds are tagged with a radioactive isotope for tracking and targeting treatment to such cancers as prostate, ovarian, and triple-negative breast cancer—and might also be used on brain tumors neuroblastoma and glioblastoma. Calidum will begin a Phase 1 trial for prostate cancer in the next year while doing preclinical studies for trials on other targets in the next three years. [UNeMed](#)

#### [Celerion expands global position as early stage CRO](#)

Earlier this year, Celerion announced that Assign Clinical Research, Vienna, Austria, had joined with the Lincoln-based contract research organization. Assign conducts early stage clinical studies, as well as specialized later-stage studies, across a broad range of therapeutic areas with focus in oncology, vaccines, cancer immunotherapy, personalized medicine and autoimmune disorders. "Assign combined with Celerion deepens our position as the global leader in early clinical research," said Susan Thornton, president and CEO at Celerion. Klaus Fischer, CEO at Assign, added: "I look forward to joining the Celerion team to integrate our services and offer clients access to the largest and the most comprehensive global early stage clinical research organization." [Press release](#)



*NU President Hank Bounds outlines an ambitious future for a vibrant statewide agenda.*

#### [NU President Hank Bounds lays out agenda for success](#)

Almost a year to the day after he took office as the seventh president of the University of Nebraska, Hank Bounds marked his formal installation by [outlining an ambitious agenda](#) for making NU one of the leading institutions in the country. Before hundreds of guests, Bounds described to Nebraskans four broad "cornerstones" for success,

formed from Bounds' travels across the state over the past year, beginning with a 1,500-mile road trip that included stops in 20 communities during his first week as president; visits to each NU campus and research and extension facility; meetings with students, faculty and staff; and conversations with Nebraskans about their goals for their university. [NU News](#)



*Ronnie and Jane Green enjoy success with the UNL volleyball champions at the Red/White game.*

#### **Ronnie Green named next UNL chancellor**

NU President Hank Bounds named Ronnie D. Green the next chancellor of UNL. Upon confirmation by the board of regents, Green, currently NU's vice president for agriculture and natural resources, would succeed current Chancellor Harvey Perlman. "Under Chancellor Perlman's leadership, and thanks to the efforts of talented faculty, staff and students, UNL is experiencing impressive momentum. My goal was to find the right person to build on that momentum," Bounds said. "Ronnie Green is that leader. He has a deep understanding of and commitment to the mission of a land-grant university. He recognizes UNL's potential to reach an even higher level of excellence. And the feedback I've received from a range of university constituents – students, faculty, staff, leaders in agriculture and business and others – confirms Nebraskans' confidence in Ronnie's ability to lead UNL forward."

[NU News](#)



*Andrew Benson is on an innovative path in the study and applications of microbial research.*

#### **UNL's Benson fulfills passion in microbial genomics**

After finishing his freshman year at Iowa State University, Andrew Benson was at a crossroads. Then he took a class in microbiology and was enthralled. Today a UNL microbiologist, Benson has become an expert in applying genome-based technology to beneficial and invader microbes involved in gut health. He is a highly sought expert for litigation of foodborne illnesses. Also during his tenure, Benson helped found the UNL Gut Function Initiative and recently launched a startup company. Read the whole story at [UNL News](#)

### [Corn board promotes ethanol on for Earth Day](#)

For Earth Day, the Nebraska Corn Board celebrated the impact of ethanol with such particulars as, in 2015, the use of ethanol in gasoline reduced greenhouse gas emissions by 41.2 million metric tons. That's equivalent to removing 8.7 million cars from the road, according to the Renewable Fuels Association. (Only 1% of the corn grown in the U.S. is sweet corn for humans. Most is field corn, a different crop, used for livestock feed and ethanol.) [Corn Board press releases](#)

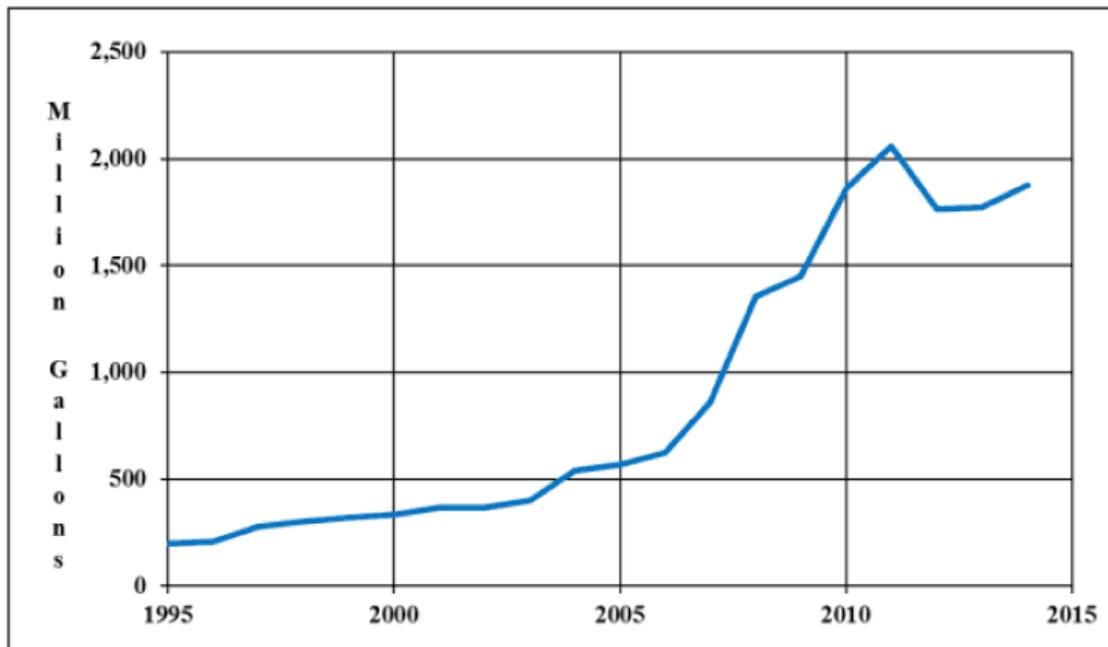


Figure 1. Ethanol Production in Nebraska, 1995-2014<sup>1</sup>

**FACTOID** -- The “Economic Impacts of the Ethanol Industry in Nebraska” study showed Nebraska ethanol production grew to nearly 2 billion gallons by 2014. Nebraska is the No. 2 ethanol-producing state (Iowa is No. 1.) From 2010 to 2014, Nebraska’s value of production for ethanol and dried distillers’ grain (feed product) ranged from \$4 to \$6.6 billion. Nebraska consumes about 77 million gallons of ethanol while exporting 1.8 million gallons, the study said, with the top 24 production plants in the state creating 1,300 full time jobs. [Nebraska Ethanol Board](#)

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## National News

### [Opinion: labeling of biotech foods lacks scientific merit](#)

Biotech foods do not need to be labeled because scientific evidence shows they are as safe as conventional foods, write researchers Ryan Yonk and Jady Naylor in the Jacksonville, Ill., Journal-Courier. Those who support mandatory labeling are misled by exaggerated claims from critics. Mandatory labeling could lead to higher food costs, and consumers already have options for choosing products that do not contain biotech ingredients. [The Jacksonville Journal-Courier \(Ill.\)](#)

### [Novozymes offers new lactose-free dairy enzyme](#)

Novozymes is launching Saphera – a lactase enzyme for production of a wide range of lactose-free products, including milk and fermented dairy products such as yogurt. [Food Ingredients](#)

### [NatureWorks Introduces Ingeo format for 3D printing](#)

NatureWorks new Ingeo offers the ease of 3D printing for high-performance use in industrial tools and jigs for manufacturing, electronics, toys, prototyping, and more. [Manufacturing Tomorrow](#)

### [BIO encourages funds for Zika vaccine](#)

BIO urges Congress to include the Zika virus in the FDA's priority review voucher program and spur Zika vaccines. "It's pivotal for both NIH and [the Biomedical Advanced Research and Development Authority] to have the funds they need to carry forward at least the Phase II work, if not beyond," said Phyllis Arthur, BIO's managing director for infectious diseases and diagnostic products policy. [Bloomberg BNA](#)

### [FDA approved record amount of generic drugs last year](#)

The FDA set a record last year by granting tentative or final approval to over 700 generic drugs. The agency handed out 535 tentative or final approvals in fiscal 2013. Some lawmakers are criticizing the agency for contributing to high generic drug prices because of its slow authorization process, and the FDA is aiming to approve generic drug applications within 10 months. [The Examiner \(Washington, D.C.\)](#)

### [Minimalist biology: Craig Venter's latest life form](#)

Less is more for biologist Craig Venter and his team, who have booted up a cell with only the bare minimum genetic instructions required for life, encoded in synthetic DNA. After years of failure, they discovered that 473 genes are all that's needed to create a living, stripped-down version of the bacterium *Mycoplasma mycoides*. Venter and his team don't know the function of a third of the organism's genes, but said that synthetic life could serve as "a very useful chassis for many industrial applications, from medicine to biochemicals, biofuels, nutrition and agriculture." [Science](#).

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