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March 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: pkozera@bionebraska.org

Phil Kozera

Letter from the Executive Director



Phil Kozera
pkozera@bionebraska.org

Let's celebrate life science success April 28

Our bioscience community's premier event is scheduled for **Thursday, April 28, from 5 to 7:30 pm** at TD Ameritrade Park in Omaha.

As an industry, Nebraska's life sciences community is diverse and growing. We have organizations both large and small delivering innovative products and services across the spectrum - from animal health to human health, from plant sciences and biofuels to bio-based materials and advanced medical technologies. I hope that you join your fellow professionals in celebration of our collective impact.

"I was very pleased that senators gave first-round approval to LB 1093 to address Intern NE and the Business Innovation Act. Expanded funding will help technologies be commercialized in Nebraska."

This month we had the unique opportunity to promote Nebraska's agricultural bioscience industry during the Governor's Ag Conference. It was an excellent platform to highlight the contributions of our growing ag-bio industry in Nebraska. Thank you to Dr. Rick Sibbel from Merck Animal Health, Nicole Rudningen from Evonik and Brandon Wardyn from DuPont Pioneer. Also, we would like to thank Ag Director Greg Ibach and Assistant Director Bobbie Wickham for the opportunity.

The Nebraska Legislature is in the final stages of the 2016 session, with the adjournment set for April 20. I was very pleased that senators gave first-round approval to LB 1093 to address Intern NE and the Business Innovation Act. Expanded funding will help technologies be commercialized in Nebraska.

On the federal front, congressional leaders continue to formulate their strategy to advance a budget, as well as fiscal year 2017 appropriations bills. We project that there will be bipartisan consensus on several issues, ranging from opioid legislation to GMO labelling to veterans' healthcare reform. We continue to monitor several issues, including discussions on drug prices.

A small contingent of life sciences professionals had the opportunity to visit with Director of Economic Development Courtney Dentlinger. We appreciated the chance to learn about more about the upcoming Governor's Summit on Economic Development scheduled for July 12. Director Dentlinger has an accomplished background and we are looking forward to collaborating with her and her team.

Bio Nebraska was a co-host with NUtech Ventures for the Nebraska Ag/Food Technology group at the Food Innovation Center on Nebraska Innovation Campus. It provided a terrific opportunity to visit with Nebraska entrepreneurs and learn of the innovative products that are in the pipeline. For those of you that are interested, the next meeting is scheduled for April.

We look forward to seeing you in Omaha on April 28, and we encourage you to bring colleagues, contacts or friends who would like to learn about our commitment to innovation, growth of high-paying jobs and creating opportunity in our state.

Best regards,



Phil Kozera

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Upcoming Events

 [World Congress of Industrial Biotechnology](#)
April 17-20, San Diego, CA

 [Bio Nebraska Annual Meeting](#)
April 28, 5 to 7:30 pm, TD Ameritrade Park, Omaha

 [Ethanol Forum April 28-29](#)
The *Ethanol 2016: Emerging Issues Forum*
April 28-29, La Vista Conference Center in
[See agenda.](#)

 [Life Sciences on the Links golf outing](#)
June 1, 1 to 6pm
Iron Horse, Omaha

 [BIO International](#)
June 6-9, San Francisco, CA



Getting Nebraska ready for growth in I.T. for life sciences

"Advanced data analytics and data visualization are of interest to simplify decision making. Life science companies generate lots of data, so custom software and mobile applications help them get a handle on their "hidden knowledge."

Today's spotlight is focused on Capstone Consulting, Inc., a new member of Bio Nebraska. The firm provides information technology (IT) services, particularly in ag and related life sciences. Matt Bernard, solutions manager for Capstone, shares the company's viewpoint on trends in IT.

Q: First of all, what is Capstone Consulting's mission and how does that relate to biotechnology and life sciences?

A: Capstone was founded in 1999 in Omaha, and has provided a range of services for area companies, from enterprise systems to staffing solutions. Our vision is to be a Servant Partner™, delivering superior business results through Information Technology resources and solutions. Our goal is to give leaders at all levels of the organization the tools to make intelligent decisions to effectively capitalize on opportunities. We have realized growth in some key areas, particularly in agrigenomics. So we have expanded our focus on practice areas of relevance to ag and life sciences. Some of our clientele belongs to Bio Nebraska and it was clear we should be part of it, too.

Q: What do you find most exciting about the Ag IT industry?

A: We have had success in the livestock sector, where companies are using IT and advanced predictive analytics to achieve their goals. We have worked in animal health, which is a major industry in our region. All of agriculture is undergoing a massive transition to the internet of things and big data. The advent of DNA testing in plant and animal agriculture has opened up new applications for genomics, and we have participated there with our clients Neogen GeneSeek and Design DNA of Columbus. We feel our experience in genomics and bio informatics can be relevant in other sectors, too. Our background is, we have worked in healthcare, medical-technology research and government. Life science creates many opportunities for IT. We are glad to be part of it.

Q: One does not typically think of agriculture as a consumer of advanced information technology.

A: Well, today agriculture is using advanced-genomics systems to empower DNA-marker selection, using the same instruments that are used in state-of-the-art human healthcare research. In the field, machines are "talking" to each other, creating complex mapping and visual systems that help farmers grow yields while reducing use of water, inputs and fuel. Companies are moving into advanced data visualization to inform decisions that producers are making. They are putting data collection into control systems that map field use, crop production and pinpoint variable input use, say for fertilizer or irrigation systems. In agribusiness, mobility is important. Government agencies are looking to IT for disease surveillance, such as avian flu, which is food security, essentially. Agricultural IT is attracting a lot of investment from venture firms and large enterprises. It's a very exciting time.

Q: What are some common things that organizations are seeking today from IT?

A: It varies a great deal. Many companies or government agencies looking to solve unique problems. Many enterprises have older IT and it hinders their effectiveness. Companies are investing in IT to reduce technology debt and run their businesses better. Advanced data analytics and data visualization are of interest to simplify decision making. Life science companies generate lots of data, so custom software and mobile applications help them get a handle on their "hidden knowledge." Other decision makers want clean data governance to see truth inside their organization. They are aiming to be more agile, and get information into the hands of employees. They are contemplating if they can consolidate old applications and scale up those systems by going to the cloud. Those are some major trends we are seeing. There are many other things going on, too.

Q: Some companies in Bio Nebraska have indicated they have trouble filling positions in bio informatics or IT generally. Do you have a similar viewpoint?

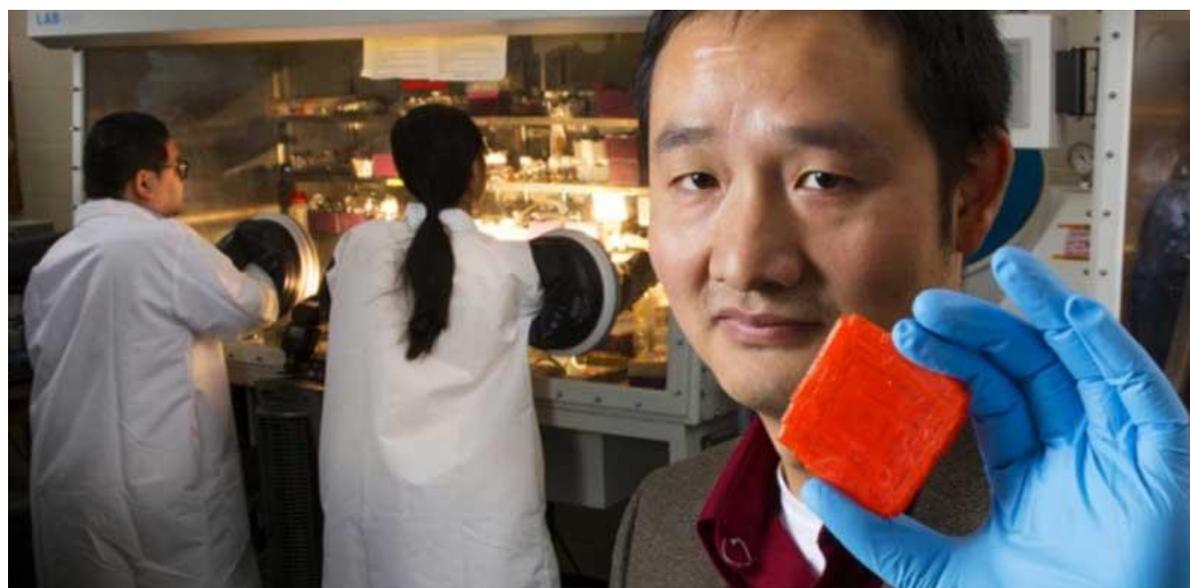
A: Since we have active development projects running in our Omaha office as well as our European office in Romania, we have a capability in bio-informatics to deliver results if someone needs our help. We can also help them hire the IT talent they need. The staffing practice within our business helps area companies find suitable candidates for temp or permanent work. By putting the right people in the right places, we create success for our clients and the community of IT specialists we serve.

Q: As a new Bio Nebraska member, what is your impression so far?

A: The people in the organization are fascinating. It is so interesting to meet them and find out what they are working on. It is a diverse group, and we enjoy networking and meeting people. We look forward to meeting more people and learning about how they are making the world a better place.

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State News



UNL engineer Jinsong Huang holds a crystal that can detect significantly smaller doses of X-rays.

[UNL researchers find more sensitive X-ray detection material](#)

The journal *Nature Photonics* reported that UNL researchers uncovered a crystalline material that is four times more sensitive to X-rays than leading commercial detectors. Methylammonium lead tribromide can detect an X-ray dose about 11 times lower than many medical applications. X-rays have seen increased use for security and transportation since the rise of global terrorism. UNL engineer Jinsong Huang and colleagues explored the material as a candidate for limiting X-ray exposure. Huang co-authored the study with UNL postdoctoral researchers Haotong Wei and Yanjun Fang, along with researchers from Ohio State University, the University of Groningen (Netherlands) and the University of Rochester. Work was funded by the Defense Threat Reduction Agency, European Research Council and National Science Foundation. [UNL News](#).



UNMC does well in new U.S News & World Report rankings and improves some scores.

UNMC highly ranked in several areas

UNMC's primary care program placed in the top five for the second consecutive year for its 2017 ranking by U.S. News & World Report. UNMC's College of Pharmacy was ranked 25th and College of Allied Health Professions' physical therapy program was 28th. (In 2012, the College of Pharmacy was 32nd. The physical therapy program was 34th.) "UNMC retains a position among the top primary-care programs in the country," said UNMC Chancellor Jeffrey P. Gold, M.D. "The new national rankings for the College of Pharmacy and the physical therapy program, as well as our nursing programs, reflect the dedication and hard work of faculty and students. We will continue in our efforts to ensure that UNMC delivers world-class education in every aspect of its medical, health care and nursing programs." [UNMC News.](#)



Greater Omaha Chamber and the Chamber-led Greater Omaha Economic Development Partnership celebrate a renewed top honor for the metro area plus state recognition. "This Governor's Cup confirms Nebraska has a fantastic team in our economic development community committed to growing our state," added Governor Pete Ricketts.

Greater Omaha-Council Bluffs again No. 1 -- Nebraska a runner up for governor's cup

Site Selection magazine has ranked Omaha-Council Bluffs the No. 1 Tier-2 metro area (population between 200,000 – 1 million) for new and expanded corporate projects. The magazine also named Nebraska runner up for the Governor's Cup, an award for new and expanded facilities per capita. David G. Brown, president and CEO of the Greater Omaha Chamber said, "This ranking is the latest example of what it means to accomplish more together: our partner counties collaborating across state lines, working with city leaders and Nebraska and Iowa

Departments of Economic Development to grow our existing businesses, attract new companies and new jobs, and enhance our total quality of life." *Site Selection* magazine annual rankings are highly regarded by corporate real estate analysts. [Chamber news.](#)

[The first annual Governor's Summit July 12 in Lincoln](#)

The Governor's Office and the Nebraska Department of Economic Development (DED) will host a first-of-its-kind *Governor's Summit on Economic Development* in Lincoln on July 12. This summit will help Nebraska's business and economic development communities share ideas and advise state government in key policy areas, including workforce development, tax policy and business attraction. Bio Nebraska is among the sponsors of this conference. [See speakers and agenda.](#)

[Success heralded for STEP Program in Nebraska](#)

Governor Ricketts and Nebraska Department of Economic Development Director Courtney Dentlinger, business owners and the Small Business Administration said State Trade and Export Program (STEP) grants program has in three years aided 62 small businesses with 280 unique activities, generating more than \$30 million in increased exports. Governor Ricketts, Dentlinger and SBA Regional Administrator Patricia Brown-Dixon announced a \$300,570 STEP continuation of the grant. Nebraska business representatives shared their success stories. Recipients in the first two rounds of STEP awards reported a return on investment of 19 to 1. [DED News.](#)

[Nebraska mine could create 1,500 construction jobs](#)

A proposed superalloy mine near Elk Creek, Neb., where NioCorp Developments Ltd. operates, "is expected to create up to 1,500 construction jobs and 300 to 400 permanent jobs." The article notes that last week, more than 300 attended a community meeting just north of Tecumseh to hear from NioCorp executives. "If all goes as planned, construction of the mine could begin by the end of this year and take two years," executives say. [Lincoln Journal-Star.](#)



Scene from Global conference video slide show at on [water institute website.](#)

[How to grow more food with less water – global conference April 24-26 in Lincoln](#)

The [Robert B. Daugherty Water for Food Institute](#) is holding its seventh annual global conference, April 24-26, at the Nebraska Innovation Campus in Lincoln. The event will focus on food research, technology and projects for efficient water use and global food supply. World population is set to hit 10 billion by 2050. **Topics:** Irrigation for

small farms; remote sensing and apps to cut water use; crop development and management; livestock information technology; food processing advances; climate change; water, food security and public health.

Speakers: Hank Bounds, president, University of Nebraska; Melissa Ho, managing director, Africa at Millennium Challenge Corporation; Martin Fisher, co-founder and CEO, KickStart; Patricia Mulroy, senior fellow, Metropolitan Policy Program, Brookings Institute and former general manager of the Las Vegas Valley Water District; Jeff Raikes, co-founder, Raikes Foundation and Water for Food Institute board chair; Sally Rockey, executive director, Foundation for Food and Agriculture Research; Richard L. Sandor, chairman and chief executive officer, Environmental Financial Products, LLC. [UNL News](#).



[Precision Ag Management workshops scheduled](#)

The Beatrice Campus of Southeast Community College is holding four Precision Ag Management workshops at SCC's Beatrice Campus, 4771 W. Scott Road. Precision agriculture – the integration of advanced IT, advanced engineering, site specific input use – are creating major changes in farming across the country. Register online, call 402-437-2700 or email continuinged@southeast.edu.

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National News

[BIO's Greenwood: Rare disease drug development needs more support](#)

Despite record levels of approvals for drugs that treat rare diseases, 95% of rare diseases currently have no available treatment, writes BIO President and CEO Jim Greenwood. The biopharmaceutical industry is capable of developing innovative therapies but needs the support of legislation that provides incentives for research, he writes. A study conducted by BIO and other groups found that the development of new orphan drugs for rare diseases would have been reduced by a third over the past three decades if the government did not implement the Orphan Drug Act, Greenwood writes. [The Hill](#)

[Purdue study backs benefits of biotech crops](#)

A study conducted by Purdue University indicates that the elimination of biotech crops would increase greenhouse gas emissions, decrease crop yields and cause deforestation. Karen Batra, BIO's director of food and agriculture communications, said biotech crops help decrease greenhouse gas emissions and protect the quality of air and soil by encouraging no-till and low-till farming practices. "Eliminating access to the technology would deny farmers the ability to farm sustainably and to provide for a growing global population," she said.

[FoodNavigator](#)

[Rep. Smith stresses importance of agricultural biotechnology](#)

Marking National Agriculture Week, Rep. Adrian Smith, R-Neb., spoke to the House of Representatives, emphasizing that the application of agricultural biotechnology enables farmers to increase crop yield while decreasing the usage of water, chemicals and land, all of which help lower food costs. "I am confident our farmers and ranchers can meet growing global demand, but the federal government must let them do their jobs. ... I am committed to promoting sound policies to help producers do what they do best -- help feed the world," he said last week. [KTIC-AM/FM \(West Point, Neb.\)](#)

[Iowa Senate OKs subsidy for renewable chemicals](#)

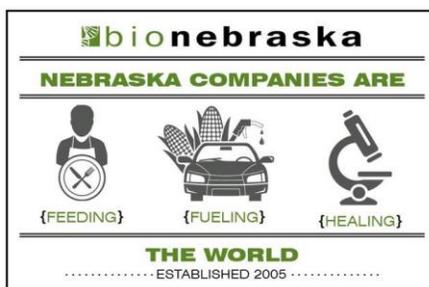
Plans to subsidize growth of the renewable chemical industry with up to \$10 million annually in state tax credits were overwhelmingly approved by the Iowa Senate on Wednesday, despite pleas from one lawmaker that it's a terrible idea. [Des Moines Register](#).

[NatureWorks invests in methane lactic acid conversion technology](#)

The new \$1 million 8300 ft² laboratory at NatureWorks world headquarters is the latest milestone in the company's multi-year program to commercialize a fermentation process for transforming methane, a potent greenhouse gas, into lactic acid, the building block of Ingeo™ biopolymer. NatureWorks is hiring six scientists to staff the new facility. The methane to lactic acid research project began in 2013 as a joint effort between NatureWorks and Calysta Energy™, Menlo Park, California, to develop a fermentation biocatalyst. [Hydrocarbon Engineering](#).

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