



Newsletter

April 2021, Volume 2, Issue 9

The grass is greening up, the birds are chirping, and we're still staring at each other on zoom. We get it—video conferencing brings so many positives (we can immediately connect with anyone around the world, so long as we take time zones into account), and some negatives (eye strain, the inability to cheers together two piping hot cups of coffee). While we really love hosting our semesterly retreats to embed alignment across initiatives, help set the vision for the next innovations to implement, and to catch up with friends that we don't get to see every day, we recognize the toll that all of the screen time has taken. Consequently, we've cancelled our spring retreat, and instead are hopeful for an in-person one again in fall 2021. Time will tell what's possible for how to gather and celebrate one another's tremendous achievements, share visions, and connect in ways to support best practices in and out of the classroom for students. In the meantime, please know that we're holding up our coffee cup with yours remotely!



In this month's newsletter, you'll find a keen focus on in-service science teachers. This summer will offer many opportunities for partnership in research (such as the Teacher-Researcher Partnership Program), in teaching (such as via the Nebraska Department of Education workshops), and of course a range of informal lifelong learning opportunities. Some great courses to help bring engaging science into your classroom are featured in the highlight of CSCI1280 and SOCI898. Looking to gain more hands-on skills? Join us for some experiential learning opportunities instead.

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In addition to our teacher and researcher partners, we know that many groups on and off campus are often charged with performing Needs Assessments. This month, Dr. Harder will share with us the steps to complete one in an engaging workshop. We hope that you'll join us for this workshop.

Finally, we would love to see you at a virtual event soon—join us for camaraderie hours, or a workshop. Or, just peruse the newsletter and share your favorite stories by Tweeting at us @UNOSTEMTRAIL. Our favorite this month is the awards that our students are achieving—check out the highlights of Brandon and Sarah on page 6! And, check out many more highlights and opportunities in the pages that follow, including a special new section for our partners at the Nebraska Department of Education.

We hope to see you at a virtual event soon.

Upcoming Events



Planning for and Conducting a Needs Assessment

Facilitator: Dr. Jeanette Harder, Grace Abbott School of Social Work, University of Nebraska at Omaha

In this interactive workshop, we'll talk about what a needs assessment is, and consider the multiple reasons to conduct one. Then we'll walk through the steps of conducting a needs assessment including who should be involved, where to find existing data, options for collecting your own data, and what to do with the results.

Fri, April 23 11:00am - 12:00pm

[Click here for more information and to register](#)

Camaraderie Hours

About the Series: During the pandemic, we can't gather informally for camaraderie, so we're bringing it online. It's a perfect time to chat or just listen on in, so grab your breakfast/brunch/coffee/soda/cat, and join us!

We'd love to see you!

Wed, April 14 10:00am - 10:45am

[Click here for more information and to register](#)



Distinguished Panelists



Jocelyn Bosley

Research Impact
Coordinator &
Podcaster

UNL



David Crouse, PhD

Nebraska Cures
Board President

Retired UNMC



Eileen Hebets, PhD

Professor of
Biological
Sciences

UNL



Hayley Jurek

Communication
& Design
Specialist

UNO STEM Trail
Center



Bob Rauner, MD

President

Partnership
for a Healthy
Lincoln



Nebraska
Coalition for Lifesaving
Cures

Nebraska Cures is hosting a virtual panel discussion titled "Science Communication: From the Pandemic Forward" on April 29, 2021 at noon. Registration is free and open to the public.

[Learn more and register here.](#)

Want to learn more about Nebraska Cures events? [Visit their website.](#)

High-Altitude Balloon Near-Space Experiment (NSE) Launch

UNO's TED/STEM 8860 Invention & Innovation in Engineering Education will conduct a "dual" high-altitude balloon near-space experiment (NSE) launch with the UNL Aerospace eXperimental Payload (AXP) student team.

TED/STEM 8860 graduate candidates (in-service STEM educators) are developing content- and grade-appropriate NSEs for their respective classrooms. AXP is testing components for a nanosatellite and supervising Lincoln middle school students' NSEs.

The launch will be on Saturday, April 24th (weather-permitting) at 10 am at the Strategic Air Command & Aerospace Museum in Ashland, NE. Governor Pete Ricketts (tentative) and Representative Don Bacon are scheduled to attend along with invited media outlets.

For more information, contact: Dr. Derrick A. Nero at dnero@unomaha.edu.



METROPOLITAN SCIENCE & ENGINEERING FAIR 2021

Organized by Metropolitan Science
and Engineering Fair, Inc. © MSEF



Congratulations to the 2021 Metropolitan Science and Engineering Fair UNO STEM TRAIL Center Snap Circuit Kit Awardees! A total of 10 students were presented with these awards on the evening of March 22, 2021.

[Click here for more information](#)

University of Nebraska names system's top teaching, research and engagement award winners

Congratulations to our very own Christine Cutucache! The director of the STEM TRAIL Center has been awarded the President's Excellence Award for Engagement.

Read the article excerpt below from the March 24, 2021 NU NEWS RELEASE. [Read the full article here.](#)

University of Nebraska President Ted Carter today announced the 2021 recipients of the university system's most prestigious faculty awards for teaching, research and engagement. The university-wide [President's Excellence Awards](#) recognize faculty whose work has had a significant impact on students, the university and the state.

"Faculty are at the heart of any great university, and the University of Nebraska is fortunate to have some of the world's best serving across our four campuses," Carter said. "The teaching, research and outreach that these faculty do on a daily basis has a remarkable impact on our 52,000 students, the state and the entire world. I'm honored to be able to celebrate their work."

[Christine Cutucache](#) received the Innovation, Development and Engagement Award (IDEA) which recognizes faculty members who have extended their academic expertise beyond the boundaries of the university in ways that have enriched the broader community.



"I'm so excited to continue this work alongside Nebraskans to diversify the STEM pathways, bring more company connections and opportunities for experiential learning to our students, expand entrepreneurial activities via collaborations with industry and through University affiliated spin-off companies, and to make interdisciplinary work embedded as experiential learning opportunities for all students, K-16. We are lifelong learners. We are change-makers. We are Nebraskans. We are together on this journey of excellence." Cutucache said.

For more information and news from the University of Nebraska, visit www.nebraska.edu/news.



Professional Development Funding

STEM Teaching Practices Instructor Development Fellowship

The STEM TRAIL Center is pleased to offer professional development funding to full-time, non-tenure track faculty members at UNO. This program will provide up to \$1000 in funding per year to participate in conferences, workshops or training events related to improvement of courses. **[Click here to find out more.](#)**

Computational Science, Symmetry, Art, and Video Games!



CSCI 1280 - An introduction to [Computational Science](#) is a course intended for all who want to learn about computer science and programming in the exciting domain of the natural sciences. The course requires no prior programming experience and is delivered in a fully asynchronous format using state-of-the-art technologies which include: (1) mobile friendly interactive web apps and (2) immersive 3D video games.

CSCI 1280 is self-paced to accommodate individual schedules with flexible assignment due dates as well as flexible exam due dates. The only requirement is that all assignments and exams must be completed before the end of the semester.

[Mystique](#) is a web app created to develop and strengthen the understanding of symmetry. The link below provides a set of exercises focusing on horizontal reflection symmetry.

Visit a [Pixel Art Gallery](#) to view (and rate) the artwork created by your fellow students. (Depending on your internet speed, loading times may vary).

Travel to a galaxy far far away and play the [Kessel Run](#), a downloadable 3D video game that integrates various web apps into a single-player game. Which student will get the high score? Be sure to stick around for the Gangnam Style awards ceremony at the end!

New Summer Graduate Course on Network Science - SOCI 898

Full tuition and fees for Nebraska teachers will be covered for a new graduate course on network science, through a partnership with the [Worlds of Connections](#) grant and the [Nebraska Math and Science Summer Institutes](#) at the University of Nebraska-Lincoln.

SOCI 898: Using Systems Thinking in Network Science will be offered online via web conferencing for two weeks, from June 7-18, Monday-Friday, from 8 a.m. to noon (on Zoom, with breaks).

This introductory 3 graduate credit hour course is intended for middle-school and high-school STEM teachers and will apply concepts of network science to systems and system models.

To receive full funding for the course, the [fellowship application](#) is now open. Start by creating an account on our CSMCE Application Portal. Be sure to select SOCI 898 from the course list in the NMSSI Summer 2021 Fellowship Application.

The Benefits of the NMSSI:

- Enroll in [one simple application](#) as a post-bac student here
- Teachers can apply for a [tuition fellowship](#)

Contact us at nebraskamath@unl.edu with questions. Visit the [NMSSI course catalog](#) for additional course option.

Have a course you want to advertise? Email it to us at

unostemtrailcenter@unomaha.edu! Give us 50-75 words describing the course and a link for more information.

S-STEM Student Highlight

Brandon Villanueva-Sanchez Accepted into the Johns Hopkins Neuroscience Scholars Program

UNO's Brandon Villanueva-Sanchez, an S-STEM Scholar, has been accepted into the Johns Hopkins Neuroscience Scholars Program. The program is a multi-year program offered by Johns Hopkins dedicated to mentoring underrepresented minorities or deaf or hard-of-hearing in the neuroscience field. The program begins Summer 2021 with scholars attending professional development workshops and performing 10 weeks of intensive research in the neuroscience field. Scholars also receive advising throughout the academic year for their paths to graduate or medical school. The program highlights Career Development, Research, Science Skill Development, and Professional & Personal Development.



Goldwater Scholar

Sarah Alsuleiman Receives Prestigious Goldwater Scholarship

Sarah Alsuleiman, a sophomore biology and chemistry double major, is the only Nebraskan to receive the prestigious Barry Goldwater Scholarship.

[Read the full article here.](#)

The Future of Learning Begins and Ends with Learning Data: An Interview with Cathy O'Bryan

In October 2020, Cathy O'Bryan was named CEO of Unizin. A consortium of higher education institutions, Unizin enables its members to meet the moment of digital transformation by developing and delivering solutions that address the pressing and complex challenges of data, analytics, and digital content. Through its consortium model and partnerships, Unizin builds technology solutions, establishes relationships, and pursues research that no single institution could achieve cost-effectively on its own.

Personally and professionally, O'Bryan is committed to education. As a lifelong learner, experienced educator, and technology leader, she supports the continuous challenge of leveraging technology to advance the mission of higher education. Recently, EDUCAUSE President and CEO John O'Brien asked O'Bryan about the offerings, advantages, partnerships, and future of the higher education consortium. [Read the full article here.](#)



The Omaha STEM Ecosystem 2020 Annual Report

Through these challenging times, we realized the ever-changing landscape of education and business and the critical role of partnerships. [The Omaha STEM Ecosystem \(OSE\)](#) itself, has continued to fulfill the roles of connector, collaborator and communicator to help support virtual programs and resources to educators, students and families. Through these efforts, the stage has been set to build an even stronger infrastructure and engage more community partners, and to advocate for innovative programs that assure equity and access for all students and families. Take a look at our [2020 Annual Report](#).



We look forward to continuing to expand our partnerships and collaborations of the Omaha STEM Ecosystem along with our partners at the STEM TRAIL Center, both at the local and national level, as we transform Omaha into a robust STEM Community to grow our talent pipeline.



A note from Audrey Webb, Science Education Specialist, Nebraska Department of Education

This month's [memo](#) has been so invigorating to put together! There's so much happening in the world of Nebraska Science this spring.

First, check out the new updates to the [Science Education homepage](#), including a tab for [monthly memo archives](#). Revisions are still in process, so if you love it, have a suggestion, or have a recommendation for something to add, let me know [here](#).

Second, it's not too late to [register](#) for this summer's Intro to OpenSciEd professional learning week from June 8-11. The agenda is still in flux, but right now it's looking like you can safely book from 8:30-4:30 each day for the virtual event. Just a reminder that this event is open for teachers K-12. Though the materials in this specific PD are at 6-8, the sessions will have a strong pedagogical focus that transcends materials and will be useful no matter what curriculum looks like at your building or grade level.

More exciting OpenSciEd news not included in the memo: NE is in the process of working with OpenSciEd content writers to develop a NE-specific scope and sequence, ideally ready by the June PD dates. Attend to be among the first to see the scope and sequence, hot off the presses.

Slots for virtual summative and formative task writing are filling up fast, but we are still looking for a few folks, especially for 7th grade formative writing. If you know of anyone who would be a great fit that doesn't get these emails, please forward the [application](#).

ESU 9 and 10 will be hosting the 2021 Summer Science Retreat June 3-4 with keynote Paul Anderson from Wonders of Science at the Aurora Leadership Center. This incredible two-day retreat is sure to fill both personal and professional buckets and sounds like the perfect way to kick off the summer! Here's a [video](#) explaining more and the [link](#) to register.

As always, there are more events, webinars, research, and resources linked in the memo.





This could be YOU.

Apply now to be an NE STEM 4U mentor for summer 2021.

www.unomaha.edu/academic-affairs/ne-stem-for-u

Resources & Opportunities

The STEM TRAIL Center would like to recognize NE STEM 4U lead at UNK. Take a look at what she's been up to: [High-Tech Health: Adkins-Bollwitt uses technology to motivate, involve PE students](#)

STEM Scramble!

- IRNAB _____
- BEIOZM _____
- LALIG _____
- NGEE _____
- XSNOSEPRI _____

Need a hint and curious why these words matter this month?

Check it out! *Answers in next month's issue.

Last month's STEM Scramble answers:

ISFER: Fires **EARNDGNEED:** Endangered **NTIOTINXEC:** Extinction **SPCIEES:** Species **TASARUAIL:** Australia



Consider a Gift, Support an Intern at your Company, or Volunteer!

Interested in donating? Please consider contributions to our UNO STEM TRAIL Center Excellence Fund #01149830 at the Nebraska University Foundation:

Checks can be mailed to:

University of Nebraska Foundation
PO Box 3465
Omaha, NE 68103-0465

reference: 01149830 - UNO STEM TRAIL Center Excellence Fund

[Or gifts can be remitted electronically.](#)

Let us know how we can support you:

unostemtrailcenter@unomaha.edu



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@UNOSTEMTRAIL

Have an idea for future programming? Interested in contributing your time or talents to the STC? Contact us!

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