



## Newsletter

January 2021, Volume 2, Issue 6

### Happy New Year!

We hope that you have enjoyed some restful time during the winter recess, and get ready to populate your calendar with lots of activities for this spring! We continue to offer weekly programming for students (Wednesdays at 10am) and for faculty, staff, graduate students, and community members (Fridays 11am). We will continue to offer virtual camaraderie hours until we return to in-person engagement opportunities. Please note our expansion of student-only camaraderie hours this spring.

This time of year is internship, fellowship, and scholarship application time! We have opportunities included throughout the newsletter for internship opportunities, summer research opportunities, cohort programs, and community based partnership opportunities.

For In-service teachers: Are you an in-service science teacher interested in gaining mentorship from a UNO scientist? Join the 2021 TRPP cohort to bring more research experiences to the K-12 environment. Read more about the 2020 cohort on page 5.

For Pre-service teachers: Join the NoyceMATH or NoyceSCIENCE programs. Participate as an intern or scholar and join a community of researchers and scholars to advance your education and preparation for your career (page 8 for more).

For current UNO students and prospective graduate students: See REU and graduate research opportunities at UNO and beyond on page 4.

For prospective UNO students: Join us for Wed programming, or watch the replays [on demand here](#).

At the STC, we're passionate about ensuring accessible research experiences, including those interested in developing out their research into companies. We've partnered with NBDC and UNeTech to ensure additional support for students. If you're a high school student interested in biotech, cognitive science research, and business, please reach out today for additional opportunities: [unostemtrailcenter@unomaha.edu](mailto:unostemtrailcenter@unomaha.edu).

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## Upcoming Events



### Summarizing Data with Excel PivotTables, PivotCharts, and Dashboards - an Introduction

**Facilitator:** Heather Leas, Grant Coordinator for STEM Education Grants, UNO STEM TRAIL Center

We welcome all, but especially undergraduate and graduate students, to the Wednesday Programming Series. The STEM TRAIL Center supports undergraduate and graduate student professional development, including areas of career preparation, networking, and a journal club focused on equity in STEM.

**Wed, January 27th 10:00am - 11:00am**

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

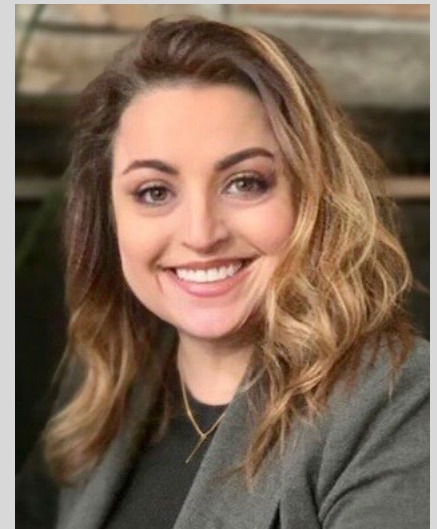
### Does My Research Require IRB Review?

**Facilitator:** Brenda Kolobara, J.D., Research Compliance Officer, Office of Research and Creative Activity

This workshop will cover the IRB process including a review of what is considered “human subject research” for IRB purposes, and who needs IRB approval. This presentation will review what is exempt from IRB review, and what issues are evaluated in an IRB proposal. The presentation will offer some tips for beginning the IRB submissions and tips for a smoother approval process.

**Fri, January 29th 11:00am - 12:00pm**

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



### Small Actions Can Make a Big Difference: Low Cost Interventions to Increase Your Students' Classroom Performance

**Facilitator:** Dr. Ben Smith, Associate Professor of Economics and the Economics Department Chair at the University of Nebraska Omaha

This workshop will explore three techniques that have been shown to impact student performance in the research: sending personalized grade information about upcoming assignments, providing immediate feedback on assessments even when administered in-person, and providing students who visit office hours follow-up resources.

**Fri, February 5th 11:00am - 12:00pm**

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



## Instructional Coaching & Research Mentoring Cohorts

**Facilitator:** **Dr. Chris Moore**, Assistant Director of the STEM TRAIL Center, Haddix Community Chair of Physical Science, Professor of Physics - College of Arts & Sciences

Looking for an Instructional Coach or Research Mentor? Join us to find a mentor, earn faculty professional development funds, and take your teaching and research to the next level.

**Fri, February 12th 11:00am - 12:00pm**

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

## STEM Outreach as a Critical Component of Mentor Success

### Facilitators:

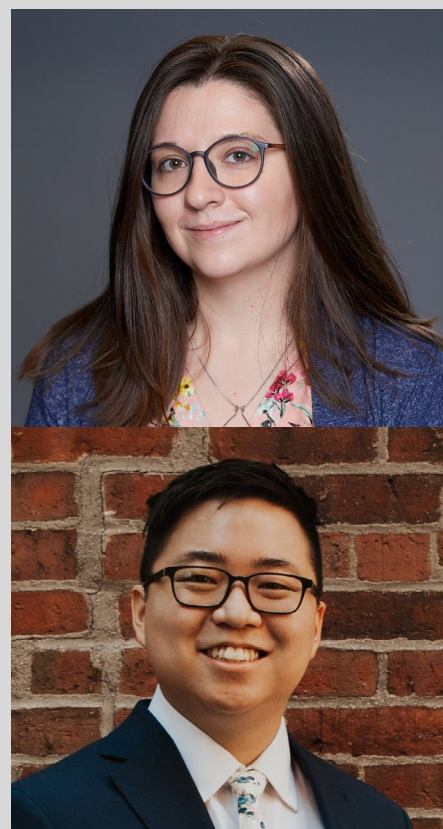
**Harim Won**, Ph.D. Candidate and NSF Graduate Research Fellow in the Biological Sciences in Public Health Program and Therapeutics Graduate Program at Harvard University.

**Madalyn Won**, Ph.D. Candidate in the Biological Sciences in Public Health Program and Therapeutics Graduate Program at Harvard University.

Learning to accessibly teach advanced STEM topics to younger students provides excellent training for undergraduate STEM students and develops the science communication skills which they will use throughout their careers. This workshop will outline steps undergraduate students should take while mentoring to effectively serve mentees and to prepare them for the next big step in their careers.

**Wed, February 24th 10:00am - 11:00am**

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



## Camaraderie Hours

**About the Series:** The STEM TRAIL Center supports during these times a way to connect with others, informally of course. 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, January 20 10:00am - 10:45am**

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



# Spring 2021 Curious People Series offered by the Barbara Weitz Community Engagement Center will feature our own Dr. Chris Moore!

## “Elevating Human Potential Through Lifelong Learning: The UNO STEM TRAIL Center”

We teach the homeless to code and place them in well-paying jobs. We train UNO students to mentor area youth, building a culture of service while engaging the next generation in the joy and power of learning. We mentor and support UNO faculty and area primary and secondary teachers, helping them to become leaders in their fields, our community, and on the national stage. These examples are a sampling of how the UNO STEM Teaching, Research, and Inquiry-based Learning (TRAIL) Center uses educational innovations, self-sustaining community partnerships, and entrepreneurial stakeholder engagement to improve people’s lives. We exist to elevate human potential through lifelong learning.

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

### About the Speaker

Christopher Moore is the Dr. George F. Haddix Community Chair of Physical Science, Assistant Director of the UNO STEM TRAIL Center, and professor of physics at the University of Nebraska Omaha. He conducts research in materials science, discipline-based education in physics and chemistry, and institutional change in higher education. Dr. Moore is the author of *Creating Scientist and Teaching Science Thinking* and co-author of the bestselling high school curricula *Experience Chemistry* and *Experience Physics*.



## Summer Internship Opportunities

It’s the time of year to apply for summer internships! There are several opportunities available. You can use [this searchable database](#) at anytime. Additional opportunities are below:

### NSF BIT SURE research experience for Undergraduates at North Carolina State University:

Hosted by North Carolina State University, this 10-week program focuses on advanced sequencing tools that are transforming the way biologists conduct research and inclusive science. Participants learn about sequencing techniques and participate in professional development opportunities. A series of workshops and service-learning opportunities promote diversity in science and learning. BIT SURE participants receive a stipend.

The application is available on our website: [go.ncsu.edu/BITSURE](https://go.ncsu.edu/BITSURE)

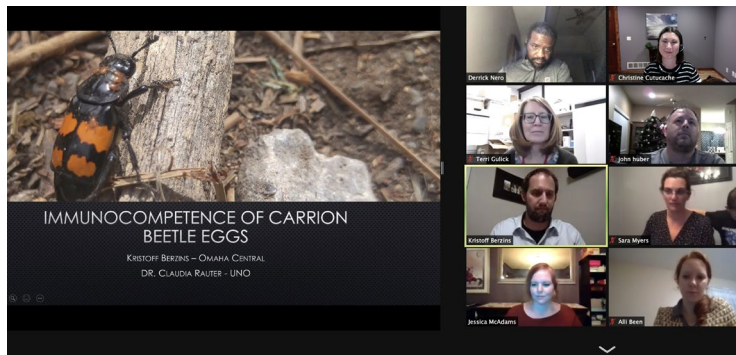
### UNO STEM TRAIL Center summer internships focused on entrepreneurship:

In collaboration with UNeTech and NBDC, we are offering business development internships, email: [unostemtrailcenter@unomaha.edu](mailto:unostemtrailcenter@unomaha.edu) with the subject: STEMEntrepreneurship to learn more.



# Supporting In-Service Science Teachers through Research Experiences

The Teacher-Researcher Partnership Program (TRPP) began in 2015, and 2020 marked the 6th cohort to complete the program. This project is led by Dr. William Tapprich, Dept. of Biology, College of Arts and Sciences, with project leadership team including Heather Leas, STEM TRAIL Center; Neal Grandgenett, Dept. of Teacher Education, College of Education, Health, and Human Sciences; and Christine Cutucache, Dept. of Biology, College of Arts and Sciences at UNO.



In December 2020, 11 in-service teachers, 4 active pre-service NSF-sponsored Noyce Scholars, 13 UNO science faculty mentors, UNO leaders, and various community friends joined the TRPP Annual Research Symposium. This symposium is an opportunity for teachers to share the results of their research projects, and convey how these engaging projects are being shared with their students within the Omaha Public School system. Thanks to a longer-term collaboration with OPS, teachers in the program have been able to take graduate courses with full support provided by the grant, and work with faculty mentors to stay apprised of current events within science.

Many of the participants in the TRPP have been acknowledged for regional and national awards. Rachael Arens, a former TRPP member with 5 years of participation, was honored for the Air Force Association/Rolls Royce Association National STEM Teacher of the Year, the Environmental Protection Agency Presidential Innovation Award for Environmental Educators, and in 2018 (after participating in TRPP for multiple years and even presenting her work internationally in Finland - a country consistently topping the PISA score list), she also won the Nebraska Teacher of the Year Award of Excellence.

Shawn Graham, an OPS teacher who is also the President at the Aquatic Society of Omaha, consistently brings awareness to socioeconomic and ecological challenges within Omaha and Lincoln and has been recognized for such work by the 4H, Nebraska Environmental Trust, the Nebraska Academy of Sciences, and other agencies.

These are just two examples of the outstanding science teacher participants in the TRPP. Others have gone on to judge national soil competitions, carry out engaged service learning projects, and worked with industry to make their content most relevant to students.

Dr. William Tapprich, who has led the program since 2018 said, “The TRPP is a great example of the kind of collaborative, engaged activities that result when the university partners with the community. Omaha and UNO are synonymous, and the ongoing collaboration with TRPP is just one example of that community impact. It’s a joy to work with such talented teachers, and to grow our pre-service NoyceScience teachers through this network and ecosystem.”



Interested in joining the 2021 cohort of TRPP teachers or researchers? Check the TRPP website for updates. Interested in helping this program to be sustainable into 2022 and beyond? Please [consider a gift today](#) or contact [unostemtrailcenter@unomaha.edu](mailto:unostemtrailcenter@unomaha.edu) to learn of ways to sponsor a teacher, a mentor pair, equipment, or student experiences.



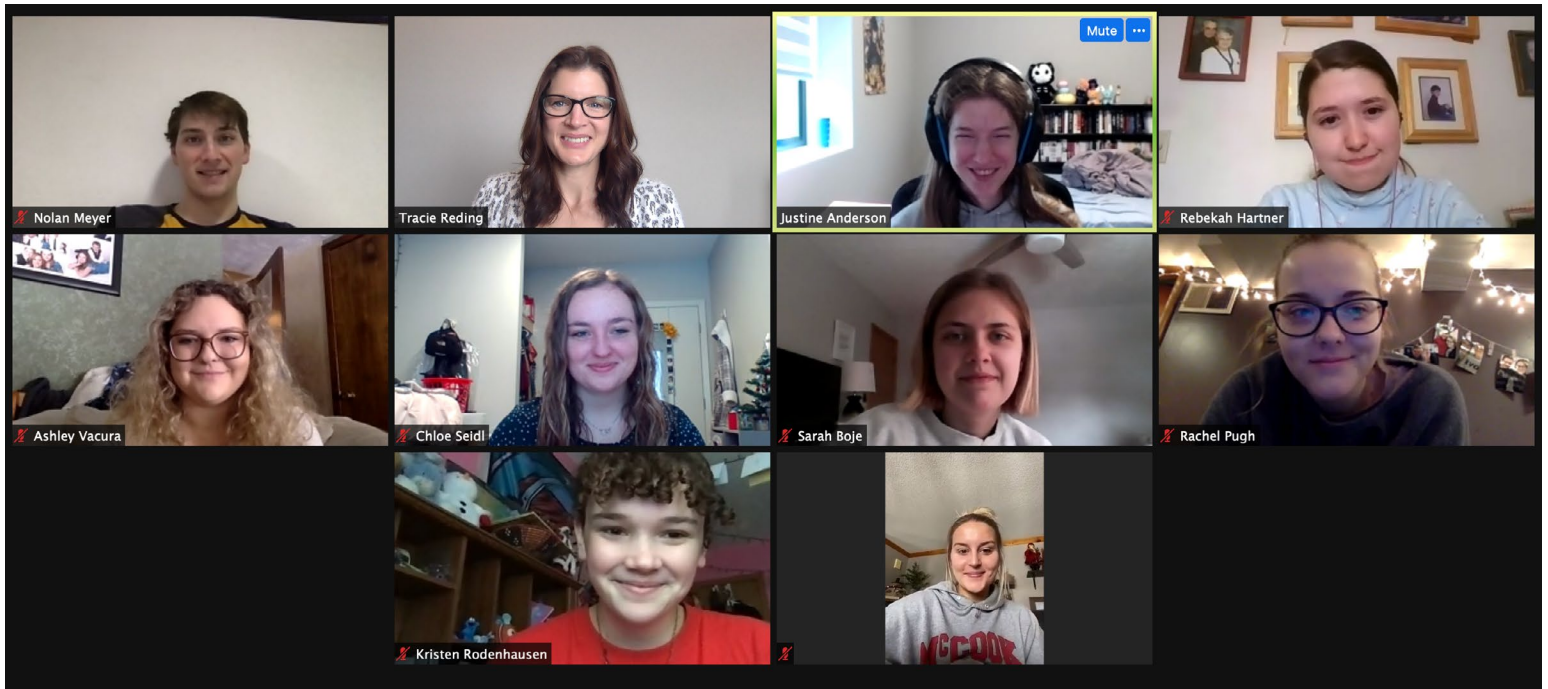
# STEM STARS Students

Happy New Year from STEM outreach! We wanted to share with you all the wonderful things that our STEM STARS have been working on since we have had to adjust to COVID gathering restrictions and have not been able to engage with the community “in person”. Our STEM STARS normally get the opportunity to engage with the community through outreach events such as Family STEM nights at local schools and larger events such as the Lights On Afterschool celebration we host here at UNO each October. Unfortunately, like most organizations, we have had to reimagine the ways we can help bring STEM to the community.

The STEM STARS have been busy working on various projects to bring STEM learning to students without actually being there. First, they have created many elementary-focused STEM bins which are basically “STEM-in-a-box” activities with instructions for both students and teachers that align to NE state science standards. These activities can be included in the classroom or done at home and typically require only household items. The STEM STARS have also been working on creating lessons based on free, STEM-centric websites and apps aligned with NE state science standards that include both teacher and student instructions so that anyone can do them from home or the classroom. Finally, the STEM STARS were able to facilitate STEM activities through a partnership with Do Space where we facilitated some of their “[Do Space Afterschool Club](#)” sessions.



This coming semester will bring additional opportunities to facilitate more of these sessions and we are very excited! We will continue to work on the STEM Bins and virtual activities as well as develop some virtual tours of local sites around the Metro area as well. If you have any questions, ideas, or suggestions on ways we can bring STEM to our community, please feel free to contact Tracie Reding, STEM Education and Outreach Coordinator at [treding@unomaha.edu](mailto:treding@unomaha.edu). Have a great semester!



STEM STARS Pictured Left to Right: Top row- Nolan Meyer, Tracie Reding (STEM Education and Outreach Coordinator) Justine Anderson (NOYCE), Rebekah Hartner. Middle row- Ashley Vacura, Chloe Seidl, Sarah Boje, Rachel Pugh (NOYCE). Bottom Row- Kristen Rodenhausen, Jesse Arends. Not pictured- Quentin Graves.

# Resources from the UNO Library

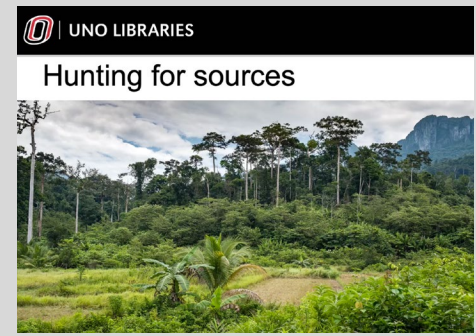
How to Spot Research Resources in the Wild: Finding and collecting what you need

Direct Link: <https://use.vg/fBTYgq>

Doing A Literature Review

Direct Link: <https://use.vg/XDYvOd>

\*This link includes a STEM-specific portion.



## 2021 PEER- Chicago Workshop

June 25-27, 2021 - DePaul University [Visit the website](#)

### What is the PEER workshop?

Mentorship in Discipline-Based Education Research

Through both virtual and in-person meetings, the PEER workshop gives opportunities for faculty and graduate students in mathematics and physics to develop their own educational research practices.

### Who Should Apply?

PEER targets a broad diversity of experience and interest in DBER. The workshop is appropriate for:

- Faculty not currently engaged in DBER but interested in learning about theories and methodologies for possible future research
- Current DBER researchers looking to build or broaden their network of collaborators and engage in generative discussions about existing and new projects
- Graduate students or postdoctoral researchers who want to learn more about DBER project management and building a successful research program
- Faculty at teaching-focused universities interested in using research methodology to improve or assess their teaching and/or publish in Scholarship of Teaching & Learning

### PEER Activities

**All Cohorts:** Saturday, March 13th (4 hours, Start Time: 9am PT/12pm ET)

**Cohort A** - Thursdays: May 6th, May 20th, June 10th (2 hours, Start Time: 9am PT/12pm ET)

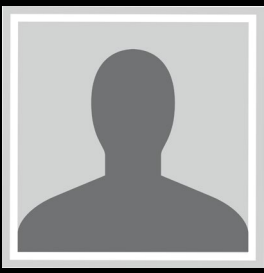
**Cohort B** - Saturdays: May 8th, May 22nd, May 12th (2 hours, Start Time: 12pm PT/3pm ET)

**Cohort C** - TBD

**All Cohorts:** In-person workshop at DePaul University: Friday, June 25th (12pm CT) - Sunday, 27th (12pm CT)

PEER combines virtual and in-person meetings in three phases:

- A March virtual meeting introduces participants to the PEER philosophy, identifies common research interests and potential collaborations, and establishes structures to facilitate partnerships.
- Virtual meetings in May/June focus on three pillars of research — access to data, experimental methodology, and theoretical frameworks — and how to align these to specific research questions. Issues of ethical research, both with participants and collaborators, will also be discussed. Significant time will be devoted to participants developing and furthering specific research projects.
- A 2-day in-person workshop in June will focus on refining research questions and specifics of data analysis, including developing and validating interview protocols, emergent coding applied to observational or interview data, and mixed-methods approaches.



# This could be YOU.

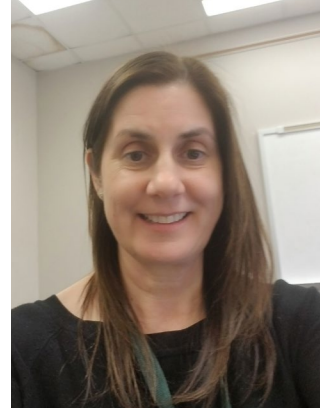
Apply now to be an NE STEM 4U mentor for summer 2021.

[www.unomaha.edu/academic-affairs/ne-stem-for-u](http://www.unomaha.edu/academic-affairs/ne-stem-for-u)

## NOYCE Student Spotlights

### Andrea Lopez

Andrea Lopez graduated in December 2020 with a dual degree in Mathematics and Secondary Education as a Noyce participant. She also earned a concentration in English Language Learning (ELL) as she is truly dedicated to serving all students. In Fall 2020, she co-presented with her Noyce mentor Dr. Sandra Rodriguez-Arroyo on how mathematics is not a universal language. Their presentation focused on strategies important for all learners of mathematics, but essential for those also acquiring English simultaneously.



Andrea persevered through her degree facing many obstacles. She not only completed her degree but excelled in the Noyce program as a true leader. She recently accepted a position with Omaha Public Schools at Monroe Middle School, and she is eager to continue her love of working with students and inspiring a love for mathematics.

### William Donlan

Noyce student William Donlan spoke this week about his Stephenson Harrington Internship in front of the chancellor, members of his cabinet, and at least one of the NU regents. William is a Senior at UNO, majoring in Mathematics/Education. His placement site for this internship is with Learning for ALL, <http://golearnall.org/>.



**Learning for ALL**  
ACHIEVING LITERACY TOGETHER

His site supervisor, John Nania describes what William will be learning: William will focus on researching best practices for teaching and tutoring that can be integrated into Learning for All's programs, orientations, and trainings. William may also research national statistics and best practices pertaining to adult education. These findings may be translated into materials that can be made available online to LFA members.

## CAMARADERIE HOURS

**\*UNO STUDENTS ONLY\***

10 - 10:45 am



Undergraduate and graduate students, this hour is **only for you!** Join your peers to connect in this remote environment. The STEM TRAIL Center supports during these times a way to connect with others, informally of course. 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!

**January 13th**

"I know I need an internship, but how do I get one?"

**February 3rd**

"What kind of job can I get with a STEM major?"

**REGISTER HERE!**





## 2021 Crockett Award

This award is sponsored by WiSTEM Pro<sup>2</sup> and CCSGE. The nominee should be a UNO staff member that has significantly contributed or brought attention to issues affecting women in STEM. All persons, regardless of gender, are eligible for nomination. [Applications due January 18th, 2021](#). Please share this email with your unit and please consider nominating someone. This is a broadly defined award and if you are not sure someone would be eligible, please reach out to Sandy Vlasnik at [svlasnik@unomaha.edu](mailto:svlasnik@unomaha.edu).

## Peer Collaboration Mini-Grants

WiSTEM Pro<sup>2</sup> along with NASA Nebraska Space Grant and the Center for Faculty Excellence announce a new initiative, peer collaboration mini-grants. These mini-grants are to support faculty and staff interested in career development and/or navigating the university environment and culture. The purpose of these peer collaboration grants is to increase job satisfaction, retention, connectedness, and overall success of our faculty/staff leveraging targeted self-defined projects. Awards are \$500/participant. [Submissions are due January 30th, 2021](#).



## Workshops/Seminars/Training/Events

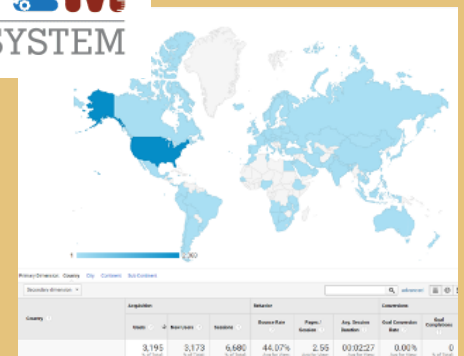
- [WiSTEM Pro<sup>2</sup> January meeting](#) | January 12, 2021 12:05-12:55pm | [via Zoom](#) | Navigating Maternity Leave
- [WiSTEM Pro<sup>2</sup> February meeting](#) | February 8, 2021 12:05-12:55pm | [via Zoom](#) | What is the office of institutional effectiveness?
- [HERS Leadership Institute](#)

## Library Migration

You may have seen the MavDaily article about the [new library services platform scheduled to launch on Monday, December 21](#). This platform encompasses the library catalog and many new features. For the first time, all University of Nebraska libraries will use the same platform! We have been working diligently to make the transition as seamless as possible but links to eBooks in Canvas or provided to students in syllabi or modules may need to be replaced. The current library catalog will vanish in March 2021, and links to those records will break. Questions? Contact Heidi Blackburn, [hblackburn@unomaha.edu](mailto:hblackburn@unomaha.edu).

## Bricklayer reaches milestone of impact: all 50 states and more than 100 countries!

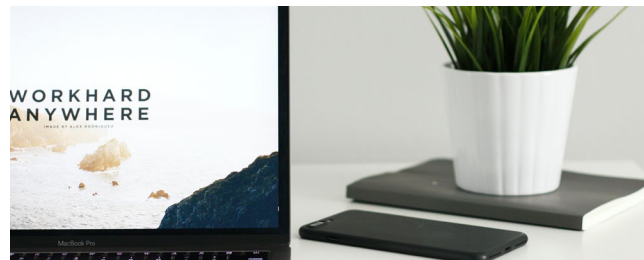
Bricklayer, an educational ecosystem developed to help people of all ages to develop mathematics and coding skills through art, reached a new milestone to close out 2020. Dr. Victor Winter and partners have worked to make coding and mathematics more accessible for all through this engaging approach. [Bricklayer.org](http://Bricklayer.org) brings coding expertise for all—from children through adult learners. Bricklayer's EdTech, which consists of interactive web apps as well as downloadable software, is also making mathematics at the undergraduate level accessible through a collaboration with Dr. Betty Love on an NSF-supported IUSE project, too. Interested in learning more about Bricklayer? Contact Dr. Winter: [vwinter@unomaha.edu](mailto:vwinter@unomaha.edu)



# Resources & Opportunities

Your pick here!

What resources would you like to see the STC offer? [Submit your suggestions.](#)



## STEM Teaching Practices Instructor Development Fellowship

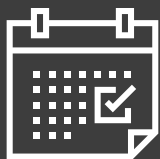
The STEM TRAIL Center is pleased to offer professional development funding to full-time, non-tenure track faculty members at UNO. This program will provide up to \$1000 in funding per year to participate in conferences, workshops or training events related to improvement of courses. [Click here to find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

[See what Lincoln NE STEM is accomplishing!](#)



### Worlds of Connections Newsletter

Volume III, Issue 1  
18 December 2020



Don't miss any events!

[Join Our Email List](#)



**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](mailto:unostemtrailcenter@unomaha.edu)



Follow us on Twitter!  
**@UNOSTEMTRAIL**

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

STEM TRAIL Center [unostemtrailcenter@unomaha.edu](mailto:unostemtrailcenter@unomaha.edu)

6705 Dodge Street, Thompson Alumni Center 204B &C | Omaha, NE 68182

402.554.2917 | [unomaha.edu](http://unomaha.edu) | [stemtrail.unomaha.edu](http://stemtrail.unomaha.edu)

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