



Newsletter

August 2020, Volume 2, Issue 1

WELCOME BACK TO SCHOOL!

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What exciting times we live in! The opportunity to meet with anyone in the world just via videochat, the opportunity to seamlessly collaborate interdisciplinarily, and to push the envelope on new inventions modalities for effective teaching, research, and outreach strategies.

We remain grateful for the creativity of our many partners to continue innovating in STEM. You'll read about many of these herein, to include rethinking retreat formats, generating STEM cartoons to expand learning for youth, generating programs that raise awareness of STEM careers to feed the needs of our state, and much more. We've seen in the past year so many new investigators submitting (and being awarded!) their first grants, publications outlining the effect that teamwork has on our culture and productivity, and welcomed conversations around the virtual water cooler via camaraderie hours. You will notice significant expansion of length this month, as we have too much to share to be stingy with space. Enjoy with a cup of coffee, and hopefully a doughnut!

See you at an upcoming event, we'll be waving to you via the zoom screen!



Don't miss any events!

[Subscribe to our Calendar](#)

Not ready to subscribe but want to learn more of what opportunities that we offer?

[Click here!](#)



STC welcomes new PhD student, Pamela Martínez Oquendo

While completing my Bachelor of Science at the Pontifical Catholic University of Puerto Rico, I developed an interest in informal education in STEM-related fields. My past research experiences include two National Science Foundation, Research Experiences for Undergraduates (REU) programs. I did an internship at Grand Valley State University, where I studied the germination rate of field-collected and commercial seeds of an invasive ornamental plant to effectively eradicate it from the surrounding dunes at Lake Michigan. In another REU at Mountain Lake Biological Station at the University of Virginia, I studied the effects of anthropogenic disturbances such as buildings on the morphology of the red-backed salamander. For this project, I contacted members of society to use their houses as salamanders' study sites. Thus, connecting with the public by educating the families about the ecological importance of salamanders in the environment.



As a PhD student, I am focusing on Discipline-Based Education Research being co-mentored by Drs. Cutucache (UNO) & Forbes (UNL). My long-term goal is to disseminate science education knowledge by conducting outreach programs with the community to build bridges between research and education in the STEM fields. My objective is to motivate and increase the number of students interested in pursuing schooling and careers in STEM-related areas.

In my free time, I enjoy watching movies and TV dramas. My favorite movies are The Curious Case of Benjamin Button, Pan's Labyrinth, and The Shape of Water.



CELEBRATING CREATIVITY IN A COVID-19 CULTURE:

Navigating What's Next: Now, Near, and Far

September 23, 2020 | October 20, 2020

8:30AM - 10:00AM

Sign up for one or both



PAST



PRESENT



FUTURE



SUCCESS

As we navigate the challenges and opportunities in this new culture, we draw on the knowledge of our diverse network of thought leaders and experts to understand the implications to our work, education, and future workforce. Please join us for this series of virtual Roundtable Discussions to share our experiences and lessons learned among a diverse set of stakeholders.

Facilitated by:

Beth Morrisette, MPA, MSW, CEO of Parlay Consulting Firm, will facilitate our Roundtable Series. She specializes in building organizational capacity through board governance, strategic planning and implementation coaching. Beth is a skilled facilitator and we look forward to working with her on this series.

The Omaha STEM Ecosystem

(OSE) is committed to building a stronger STEM community and business development for tomorrow's workforce. We develop key local and national partnerships and connect community resources to provide strong pathways to STEM education and career. This is never so important as now, in the new virtual learning world as a result of the COVID-19 protocol. The OSE website has a collection of resources available for educators, families and students. [Check out the resource/virtual page here.](#)

Please feel free to send us your resources for sharing, as we want to assure we are inclusive of all the great virtual programs available in our community.

Don't miss our second Roundtable Series - Celebrating Creativity in a COVID-19 Culture

[Register Now](#) Use code: OSERT2020

UNO receives \$84,747 NSA/NSF grant to train STEM educators on cybersecurity fundamentals

The Nebraska GenCyber Teacher Camp (NGC-T) is a thematic STEM education program focused on the internet of things (IoT) as a case study for exploring cybersecurity. NGC-T is funded by a grant from the National Security Agency (NSA) in conjunction with the National Science Foundation (NSF). NGC-T will host and support 15 teachers of diverse backgrounds and experience with a common desire to learn about cybersecurity. NGC-T invites participants from Nebraska and Iowa or other nearby midwestern areas to expand their cybersecurity knowledge, skills, and abilities. The NGC-T camp is structured around immersing teachers in themed hands-on curricular activities associated with bite-sized integrable cybersecurity modules. Each module is, itself, a ready-to-go lesson that includes a lesson plan, self-guided tutorial, and set of classroom activities. While teachers learn about cybersecurity and practice using the modules, for later use in their own schools, they are also asked to synthesize and create new lessons of their own. To support this, at the end of each module, teachers will take part in a workshop focused on curricular strategies for translating the lessons they just learned in the module into their own classrooms. Following the IoT theme, participants will get to build a real-world IoT device and hook it up to the web to make an interesting application. Participants will also learn about safe online practices and effective pedagogical tools for teaching cybersecurity plugged and unplugged activities.

Project team leadership includes PI, Matt Hale, Ph.D., Associate Professor of Cybersecurity, with coPIs Brian Dorn, Ph.D., Associate Professor of Computer Science, Robin Gandhi, Ph.D., Professor of Cybersecurity, Briana Morrison, Ph.D., Assistant Professor of Computer Science, as well as collaborating Teachers Kristeen Shabram (Westside Middle School).

UNO receives \$99,720 NSA/NSF grant for immersive cybersecurity STEM Camp for 90 area elementary and middle school girls

The University of Nebraska at Omaha (UNO) will offer the 2021 Nebraska GenCyber Camp (NGC 2021) for middle and elementary school girls from the Midwestern Greater Nebraska area. NGC is a thematic camp focused on Rube Goldberg machines that emphasizes computational thinking, online safety awareness, and career exploration in cybersecurity. NGC will host 90 female students of diverse backgrounds and experience in the 3rd to 8th grade band to increase their interest in STEM and cybersecurity. The NGC is structured around immersing students in hands-on curricular activities associated with bite-sized integrable cybersecurity modules. At its core, NGC aims to empower and engage young women by building their confidence and technical skills, breaking down role-based stereotypes, and showing them that they can have careers in computing and cybersecurity. NGC will use a variety of hands-on plugged and unplugged activities designed



to raise interest in STEM and cybersecurity and improve the cybersecurity readiness and diversity of our future workforce. Participants will get to solve a series of problems and complete multiple computing challenges to make a Rube Goldberg Machine. Participants will also learn about safe online practices and career opportunities through near peer and industry role model experiences. NGC is funded by a grant from the National Security Agency (NSA) in conjunction with the National Science Foundation (NSF).

This project team is led by PI, Matt Hale, Ph.D., Associate Professor of Cybersecurity, with coPIs Brian Dorn, Ph.D., Associate Professor of Computer Science, Robin Gandhi, Ph.D., Professor of Cybersecurity, Briana Morrison, Ph.D., Assistant Professor of Computer Science, as well as collaborating Teachers Kristeen Shabram (Westside Middle School) and Lynn Spady (Westside Elementary).

Dr. Moore Awarded NSF Grant

UNO was awarded a grant from the National Science Foundation (NSF) Improving Undergraduate STEM Education (IUSE) program, award #2021315, to support faculty teaching general education science, mathematics, and social science courses. The \$298,276 grant will fund research that will identify the teaching practices, concerns, and needs of UNO faculty and dual-enrollment high school teachers. The research will also identify structural barriers to learning in general education courses. The data obtained will drive future action and allocation of resources to improve retention in, and recruitment into, the science, technology, engineering, and mathematics (STEM) pipeline.

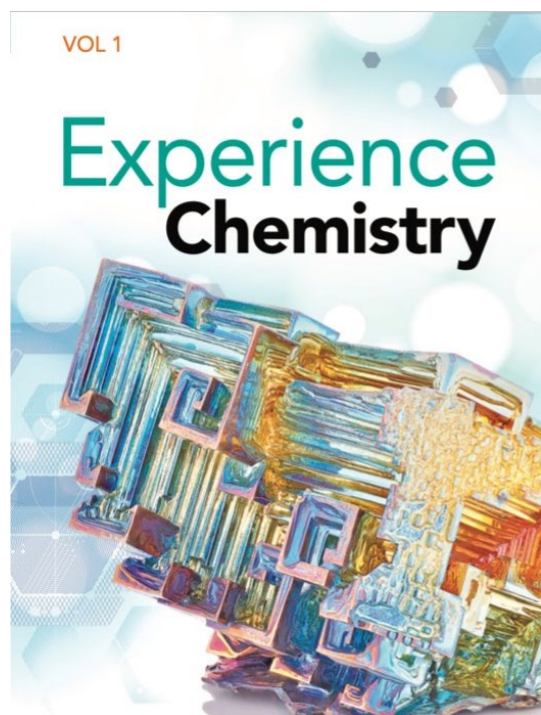
“ In this project, we’re going to ask our faculty, in a systematic way, what resources they need to continue making UNO an exceptional educational value.”

Moore says.

Led by Christopher Moore, Ph.D., professor of physics, the project will identify how and where research-verified teaching practices are and are not being used in general education courses at UNO, which will allow campus leaders to allocate resources based on need, potential for measurable impact, and in a manner that specifically addresses faculty concerns and attitudes.

“Implementation of a broad range of research-verified teaching practices has been shown to improve course metrics and institutional metrics, including student retention,” Moore says. “However, university administrators face a dearth of information about the actual teaching practices used by their faculty, and therefore must attempt to blindly provide support, resources, and intervention. This project will provide the data needed for data-based decision making, while also ensuring that faculty on the front lines have a clear and loud voice in the decision making process.”

The grant is funded through the NSF's. Moore is joined on the project by Julie Pelton, Ph.D., associate professor of sociology, Tracie Reding, Ed.D., STEM Education and Outreach Coordinator, Karen Hein, Ph.D., Director of the Center for Faculty Excellence, and Sarah Edwards, Ph.D., Assistant Vice Chancellor for Curriculum & Programs. Senior personnel on the grant include David Booker, Ph.D., Dean of the College of Arts and Sciences, Christine Cutucache, Ph.D., Director of the STEM TRAIL Center, and Matt Tracy, Ph.D., Director of General Education and Dual-Enrollment.



More by Dr. Moore! Reaching K-12 Science Educators with a new book!

Christopher Moore, Ph.D., professor of physics and Assistant Director of the STEM TRAIL Center, and co-authors Micheal Wyssession and Bryn Lutes at Washington University in St. Louis, MO have released the high school chemistry curriculum. Experience Chemistry, with publisher Savvas Learning Company (formerly Pearson PreK12), was designed from the ground up for the Next Generation Science Standards and follows the research-verified 5E curriculum model. A curriculum designed for the national market, Experience Chemistry follows the success of last year's release of Experience Chemistry in the Earth System for the California market, which has been adopted by several of the largest school districts in the state.

More than 3,000 educators from around the U.S. attended Dr. Moore's training in science education in August!

Upcoming Events



Join us for coffee and conversation around equity in STEM, twice monthly.

We will focus one conversation around a speaker, special topic, or recent event, and the other using a journal club style discussion of an Equity in STEM journal article.

Next conversation:

Wed, September 9th 10:00am - 11:00am

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



Sam Zeitner, Resumes and Cover Letters

In Academic and Career Development Center we keep up on resume/cover letter trends and solicit advice from industry professionals on what makes a great resume. Join us on September 23rd for an in-depth look at resumes and cover letters as we go over the dos and don'ts of resume etiquette. Learn how to make your resume stand apart as well as how to coach students on crafting a strong resume.

Wed, September 23rd 10:00am - 11:00am

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

Online event through Zoom, limited in-person seating



Want to keep up with our events?

Automatically populate our Calendar to yours - [Click here to add it!](#)

Can't make it to our August events?

Join us every month for programming.

Visit our [calendar page](#) to view events and RSVP.

- **SciCommCon** was hosted in August by UNL and included featured **speakers** including UNO's Christine Cutucache. The meeting hosted more than 650 people from 34 countries! Did you miss the talks? [View them here.](#)
- This was the first year of the NSF Noyce Virtual Summit, and UNO was well-represented with the UNO **NoyceMATH** and **NoyceSCIENCE** programs. [View them here.](#)



RACIAL EQUITY INSTITUTE (REI) TWO-DAY WORKSHOP

MONDAY, OCTOBER 19 & TUESDAY, OCTOBER 20, 2020 | 9 AM - 5 PM
OR
MONDAY, MARCH 15 & TUESDAY, MARCH 16, 2021 | 9 AM - 5 PM
ONLINE VIA ZOOM

How do you foster teaching and learning environments that create greater teamwork, support and productivity? Looking for tools and strategies to challenge racism and discrimination?

Join the STEM TRAIL Center and Center for Faculty Excellence for a two-day workshop led by the Racial Equity Institute (REI).

Grounded in a historical, cultural, and structural analysis of racism, the workshop covers REI's fish/lake/groundwater analysis approach, understanding and controlling implicit bias, and more. Participants will build upon this foundation by connecting concepts and strategies to teaching and learning.

All full-time faculty are eligible to participate. Individuals must apply to participate as space is limited. Nominations of colleagues who would contribute to this conversation in a meaningful way are also encouraged.

Individuals selected to participate will earn professional development funds.

To apply for yourself or to nominate another for either fall or spring workshop, go to

<https://bit.ly/rei-app>

Applications not selected for fall will be considered for spring.

Application/Nomination Deadline
Thursday, September 10, 2020

REI
racialequityinstitute, llc

The Racial Equity Institute (REI) is an alliance of trainers, organizers, and institutional leaders who have devoted themselves to the work of creating racially equitable organizations and systems. For a more in-depth scope of REI's workshops, please visit their website at racialequityinstitute.com/ourservices.

Join ongoing discussions **EQUITY IN STEM**: 10AM every first and second Wednesday of the month

For more information, contact:

 STEM TRAIL CENTER | unostemtrailcenter@unomaha.edu | CENTER FOR FACULTY EXCELLENCE | unofacdev@unomaha.edu

Check out Fall offerings from our partners in the UNO Office of Research & Creative Activity

NuRamp Training Sessions

NuRamp (formerly MavGrants) training sessions are now hosted via Zoom. The fall training dates are listed below. Please [register here](#) to attend.

September 3, 11:00 AM - Noon

October 1, 11:00 AM - Noon

November 5, 11:00 AM - Noon

December 3, 11:00 AM - Noon

Contact [Katy Vitale](#) to schedule a NuRamp/ MavGrants training session.

Introduction to UNO's Funding Databases

The sessions will begin with a brief introduction to [funding databases](#) such as [GrantForward.com](#) and Foundation Directory Online. The remaining time can be used by attendees to search those databases, receive guided assistance in their search process, and ask questions of ORCA personnel. These meetings are now hosted via Zoom. The fall training sessions are listed below. Please [register here](#) to attend.

September 3, 1:00 PM - 2:00 PM

October 1, 1:00 PM - 2:00 PM

November 5, 1:00 PM - 2:00 PM

December 3, 1:00 PM - 2:00 PM

Request an individual training by contacting [Katy Vitale](#).

Digital Learning Resources for Faculty This Fall

The Digital Learning team has updated [KeepTeaching.unomaha.edu](#) with more helpful info when it comes to teaching remotely or with technology in general. The [teaching tools](#) section includes most of what you need to know about Zoom (live synchronous video), VidGrid (prerecorded captioned video) as well as Canvas and other tools to enhance and compliment your teaching strategies.

As always, the Digital Learning team offers one-on-one support via email at uno.its.digitallearning@unomaha.edu as well, so if you don't see your answer on [KeepTeaching.unomaha.edu](#) or want to connect one-on-one there are other options. The team closely monitors this inbox during regular business hours and will connect with you quickly!

They also offer Virtual drop-in hours via Zoom from 9 a.m. to 4 p.m. Monday through Friday at [Wait in the room](#) a few moments to allow a team member to connect with you. **The team is also offering After-Hours Drop-In Support Monday and Tuesday evenings until 7 p.m. until Sept. 1st!**

Finally, the Digital Learning team also created a place for students who may be asking faculty questions as they arrive back for class this fall. You can encourage students to read through [KeepLearning.unomaha.edu](#) for questions they may have on technology or support services and other health-related questions as we navigate the pandemic.

Thanks to our partners in Digital Learning, Jaci Lindburg and Jason Buzzell and team to help us Keep Teaching.



Our quarterly STEM community chair retreats look a little bit different during a pandemic, but the outcomes remain the same! We remain excited to bring new programming, offerings, and support for you all for 2020-2021, alongside our outstanding partners.

Resources & Opportunities

Additional reading to 'Keep Teaching'

Resources from [CBE - Life Sciences Education](#)

- [LSE articles](#) related to online instruction, such as [Student Satisfaction and Learning Outcomes in Asynchronous Online Lecture Videos](#) and [Options for Online Undergraduate Courses in Biology at American Colleges and Universities](#), among [others](#)
- LSE's collection of [evidence-based online instruction resources](#)
- Two on-demand webinars – one on [Transitioning To Online Instruction](#) and one on [Troubleshooting Online Instruction](#)
- And for shifting your biology class online, check out [these resources](#), curated by Alison Dell. Additional resources are also available via her [twitter thread](#).

Looking for a way to get involved in STEM locally?

Check out our [searchable database!](#)

Kids' & Parents' Corner

Check out our resources for youth, including [videos](#), [lesson plans](#), and [webinars!](#)



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Checks can be mailed to:

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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

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

STEM TRAIL Center unostemtrailcenter@unomaha.edu

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