

# STEM TRAIL Center Newsletter

May 2020, Volume 1, Issue 10

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## Reflections & Projections

What a first year it has been for the STEM TRAIL Center! Thanks to your partnership, advocacy, camaraderie, collaboration, and expertise, we have had a strong start. We look forward to continuing the work to expand resources for lifelong learners everywhere.

Thanks to the great feedback throughout our first year of programming, and through the UNO 'Big Ideas' competition, we've worked to actively adapt our programming to best meet the needs of our stakeholders. We have dedicated programming each Friday of this past year (and many continue yet this summer), and we'll continue this frequency moving into the 2020-2021 academic year, with Fridays at 11am, via zoom or, as permitted, at the UNO Thompson Alumni Center.

The core areas of strength, in my view, from this past year have been the inclusivity surrounding STEM (and non-traditionally 'STEM') areas. We've had expansive



partnerships from faculty, staff, and students across every area of research, and each College. The reach speaks for itself—we've had 30% of our participants come from outside of the UNO Community. We've enjoyed working with K-12 students, teachers, staff, faculty, university level undergraduate and graduate students, and partners around the globe. Thanks for helping to elevate the idea of this new Center resource with an expansive audience. Let's continue this important work.

Finally, the videos highlighting just a couple of our programs have gained substantial attention and reach as well, as shown in our infographic highlighting our year in review.

Thanks for working with us this past year. We look forward to your continued partnership in 2020-2021.

# Recent Awards & Highlights

- In May, Dr. Rault (and his colleague, Dr. Nina White, University of Michigan) offered a customized workshop to help faculty learn how to implement Inquiry-Based Learning (IBL) within their courses (using Mathematics and Statistics courses as models). Also, the Teaching Practices workshop, held throughout the academic year, also highlights a range of active learning strategies. Join us to find your favorite active learning approach.
- Dr. Cutucache was awarded a Fulbright (2020), but travel is postponed due to the current pandemic. However, we're working to implement some of the proposed work remotely. In May Dr. C delivered a talk to 52 teaching and research faculty from the University of Eastern Finland, as well as Finnish entrepreneurs. Research surrounding undergraduate learning gains from effectively designed STEM programs will be the focus of this collaboration, and additional collaborators are welcomed.
- Dr. Reding leads a recently awarded grant from Unizin for her cutting edge approaches to mapping our understanding of remote learning. Dr. Reding leads the team of Jason Buzzell, Christine Cutucache, Neal Grandgenett, and Chris Moore (as well as a larger, multi-institutional IT team) to conduct this work. Importantly, this work will inform core data acquisition and resultant networks for instructors and undergraduates across a 13 institute consortium.
- Dr. Hale leads the team of Drs. Brian Dorn, Robin Gandhi, and Briana Morrison on two recently awarded grants from the National Security Association to provide IT and CS experiences for students and teachers. However, the start of this project will be delayed, due to the coronavirus outbreak.
- Dr. Dorn was awarded a contract from St. Albert's Catholic Schools to conduct professional development for teachers surrounding CS, thus furthering the impact and reach of computer science education.
- Dr. Cutucache leads a new award to expand online learning as a pilot Center of Excellence, in partnership with Drs. Neal Grandgenett, Melodae Morris, William Tapprich, Nik Stevenson, and Hayley Jurek.
- We have 8 grants actively under review, and will share results of those in our fall newsletter.

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**Thanks to everyone that has submitted a grant proposal with us this year.**

**Thanks especially to:**

David Boocker, Becky Brusky, Jason Buzzell, John Conrad, Christine Cutucache, Joshua Darr, Ashlee Dere, Kelly Deuerling, Timothy Dickson, Julie Dierberger, Brian Dorn, Sarah Edwards, Doug Ewald, Michelle Friend, Robin Gandhi, Kelly Gomez Johnson, Neal Grandgenett, Matt Hale, Magie Hall, Karen Hein, Paula Jakopovic, Anne Karabon, Amelia Lanier Knarr, Betty Love, Md Mahbubul Majumder, Michael Matthews, Sheryl McGlamery, Chris Moore, Melodae Morris, Briana Morrison, Derrick Nero, Julie Pelton, Patrick Rault, Claudia Rauter, Tracie Reding, Dana Richter-Egger, Ryan Schuetzler, Julie Sigmon, Richard Stacy, Amanda Steiner, William Tapprich, Matt Tracy and Andrea Wiggins.

**We love seeing such interdisciplinary work taking place!**

# Upcoming Opportunities & Events

## Message from UNO Outreach Coordinator,

Dr. Tracie Reding

### Greetings from STEM Outreach!

As we wrap up our academic school year it's a great time to reflect on our accomplishments, challenges, and what the future might hold. Each academic year, we are involved in numerous STEM outreach activities ranging from family STEM nights at local elementary schools to co-hosting large events that bring in over 1,500 people.

In the Fall semester we co-hosted the Lights On Afterschool event with Completely Kids where more than 60 UNO students, staff, and faculty volunteered to help make the event a huge success. In the Spring semester we co-hosted the largest ever Nebraska Robotics Expo with First Lego League and UNL on Feb. 22 with over 1,500 people in attendance. The last STEM-related event we were able to help with was the annual Metropolitan Science and Engineering

Fair (MSEF) hosted at the Omaha Henry Doorly Zoo & Aquarium on March 5th. The event was very successful due to the many UNO students, staff, and faculty that volunteered to help judge. Sadly, this was the last event we were able to participate in due to the necessary social distancing guidelines to help stop the spread of the Coronavirus. We are anticipating that outreach might look a bit different in the Fall '20 semester and we are looking ahead to come up with innovative ways to continue to engage with the community. Please feel free to contact me with any ideas or suggestions on how to safely engage with the community to continue our STEM outreach in a virtual manner: [treding@unomaha.edu](mailto:treding@unomaha.edu).

Finally, I can't say 'THANK YOU' enough to all of our STEM friends that help make our UNO STEM Outreach efforts such a success, enjoy your summer!

## Message from Omaha STEM Ecosystem Director,

Julie Sigmon

### From the OSE's Research and Advocacy Committee's white paper on Status of STEM Education in Omaha:

The Omaha STEM Ecosystem (OSE) is excited for the release of the OSE Research and Advocacy Committee's White Paper on the Status of STEM Education in Omaha. Jenna Yentes, Ph.D. at UNO, serves as Chair for this committee and summarized, "Through the dedication of OSE committee members, partners, and supporters, significant progress has been made in identifying and leveraging community strengths and resources in STEM. To capitalize on

this momentum and enhance our efforts to meet workforce needs and move Omaha and Nebraska forward in STEM, we now must focus our efforts on an effective, iterative, and cyclical process of ongoing communication and accountability. We believe that expanding our communication outreach, establishing clear indicators of success, tracking our progress, and continuing to work together to address shared challenges will have a positive impact on Omaha STEM initiatives, now and in the future. ([Research and Advocacy Committee White Paper, February 2020](#))



## Welcome, New Staff

### Hayley Jurek

Equipped with unrelenting enthusiasm and a passion for visual communication, Hayley Jurek is ready to take on the STEM world at UNO through graphic design. A graduate of UNO, Hayley has her undergraduate degree in public relations and recently received her master's degree in communication. She's spent the last two years as a graduate teaching assistant for a public relations graphic design class in the School of Communication. Hayley has been a photographer for 10 years and loves taking family portraits and senior photos. She volunteers on the leadership team with the Omaha Film Festival and Easterseals Nebraska. In her free time, you can find Hayley reading nerdy fiction novels, spending too much money online or hanging out at the gym!

## Consider a Gift or Volunteer!

**Interested in donating? Please consider your year-end 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)

**Interested in volunteering your skills and talents as part of one of our initiatives or programs? Contact us today!**



## RESOURCES

Are you interested in better serving your students, but would appreciate some coaching on the first steps? Call us for coaching and other instructional support: [unostemtrailcenter@unomaha.edu](mailto:unostemtrailcenter@unomaha.edu), we work hand-in-hand with the Center for Faculty Excellence and we're excited to help you meet your goals!

Stay tuned for upcoming opportunities from the Center for Faculty Excellence on their calendar.



## Great resources to share, from our desks to yours:

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### Press releases & articles:

NSF Appropriations News, 2019:

<https://www.nsf.gov/about/congress/>

STEM Congressional Highlights, 2019:

<https://www.nsf.gov/about/congress/nsf-congress-highlights.jsp>

Graduate STEM Education for the 21st Century (National Academies Press): <https://www.nap.edu/catalog/25038/graduate-stem-education-for-the-21st-century>

English Learners in STEM Subjects, 2018 (National Academies Press): <https://www.nap.edu/catalog/25182/english-learners-in-stem-subjects-transforming-classrooms-schools-and-lives>

Discipline-based Education Research (National Academies Press): <https://www.nap.edu/catalog/13362/discipline-based-education-research-understanding-and-improving-learning-in-undergraduate>

### Books:

- The Effective Executive by Peter Drucker
- The Impact of Confidence: 7 Secrets of Success for the Human Side of Leadership by Timothy Ressmeyer
- Improving How Universities Teach Science by Carl Wieman
- Networking for Nerds by Alaina G. Levine
- Make It Stick by Brown, Roediger III, & McDaniel
- Turning the Flywheel: A Monograph to Accompany Good to Great by Jim Collins
- The 5 Languages of Appreciation in the Workplace: Empowering Organizations by Encouraging People by Gary Chapman and Paul White

**Do you have a favorite book or article? Please share with us on Twitter @UNOSTEMTRAIL to be featured here!**

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