



# STEM TRAIL Center

September 2019

## IN THIS ISSUE

An Invitation to the Launch

Cascading Messages

Upcoming Opportunities

Key Programming for Year 1

Resources to Share

Contact Us



## Invitation to Engage with the Center

Welcome back to a new academic year and the start to fall! We're elated to be gearing up for the formal launch of the STEM TRAIL Center. Our singular goal for year 1 of the Center is to communicate. This communication is who we collectively are, what we do, what we don't do, and remain flexible to growth and opportunities. This will be completed in a number of ways:

- 1) Website and social media
- 2) Newsletters
- 3) Unit by unit, person by person conversations by STEM ambassadors
- 4) Friday programming held in the Thompson Alumni Center
- 5) Marketing materials

We look forward to speaking with each and every one of you about your own great innovations, opportunities to help, and long-term vision of the STEM TRAIL Center.

You might be asking, "why was the STEM TRAIL Center even created? Where did that idea come from?" Most prominently, this idea came from two major sources:

- 1) The University STEM Strategic Plan, Phase I that spanned 2012-2017, with the coordinated hiring of the first STEM Community Chair had met 31 of the 32 major objectives, the final component being a "STEM building" or "center".
- 2) The great success of outstanding faculty, students, and partners (like you!) helped to foster the need to create this Center as step 1 of the STEM Strategic Plan, Phase II spanning 2018-2023. The Center approach was seen as critical to helping to move forward to the next level of collaborative success and external funding competitiveness. We got right to work on this plan in 2018 and in mid-2019 we were approved (See summer newsletter for more information on those involved).

We look forward to welcoming you to a pedagogy seminar, a discipline-based education research (DBER) workshop or seminar, and to NSF STEM style grant writing workshops throughout the year on Fridays at noon in our new home at the Thompson Alumni Center.

*We exist to elevate  
human potential  
through lifelong  
learning.*





## Award Notices and Exciting Highlights

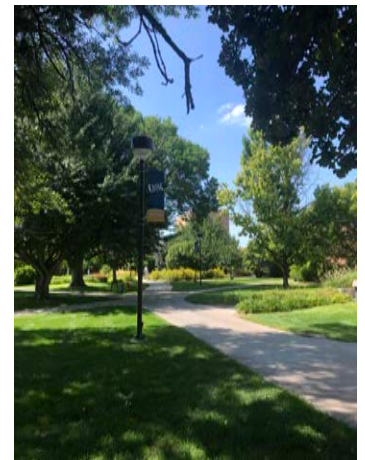
Dr. Patrick Rault (Mathematics) continues to advance Communities of Inquiry-Based Learning (IBL) teams from across the country. In collaboration with UNO professors Dr. Kelly Gomez Johnson (Teacher Education) and Dr. Paula Jakopovic (Teacher Education), this team has partnered with others across the country to innovate in mathematics education. As part of a newly funded Improving Undergraduate STEM Education (IUSE) project funded by the National Science Foundation, these UNO professors will work with colleagues from Maryland (Dr. Amy Ksir, US Naval Academy), Massachusetts (Christine von Renesse, Westfield State University), and Michigan (Nina White, University of Michigan) to implement the project. This project builds on the growing body of research about the positive impacts of IBL on student learning and student success. Specifically, the aim of this project is to investigate the potential of regional communities of IBL practitioners to support faculty in adopting, sustaining, and promoting the use of IBL in undergraduate mathematics education. This can only occur through synergy among diverse groups of stakeholders—from faculty to policy makers.

Drs. C. Cutucache, N. Grandgenett, and W. Tapprich were awarded two grants in support of the NE STEM 4U project. These new awards will expand their focus from content knowledge and critical thinking to include youth voice, network science, and collaboration skills.

Drs. JJ Conrad, K. Gomez Johnson, Sacha Kopp, Claudia Rauter, Tim Dickson, Chris Moore, and William Tapprich were awarded an NSF S-STEM to provide course-based research experiences to academically talented undergraduates.

### Summary of accomplishments to-date:

- \$1.42M has been awarded since inception to initiatives via the Center
- The Center has contributed grant writing support, interns, and letters of commitment to assist with pre-award preparation. Let us know how we can help you.
- \$12.1M of grants and contracts are currently under review. Good luck, STEM investigators!



Student programs in STEM at UNO are highly interdisciplinary in content nature, but also prepare students for the ever changing workforce. The Omaha STEM Ecosystem is a critical part of the STEM TRAIL Center to aid in career advising, skill set additions, and expansion of opportunities for students.

In August, several of the student groups at UNO kicked off the year with retreats in partnership with community partners. Similarly, the Omaha STEM Ecosystem will host more events this fall, serving as a terrific example of a bridge for public-private partnerships in STEM. Alaina G. Levine will serve as the evening keynote speaker, in partnership with the Omaha STEM Ecosystem, Sept 20<sup>th</sup>; topic: "Innovation, growth, and advancement through the diversity of ideas." Join us!

Did you know that on Fri, Sept 20<sup>th</sup>, Alaina G. Levine will deliver programming JUST for students? Topics include:  
 --"I am about to graduate what on earth do I do now?"  
 --"10 things you can do NOW to get a job and move your career forward"  
 --"Developing Your 30 Second Value Statement"

## Upcoming Opportunities, STEM Center Launch Event, & Other Updates

\*\*\*\*\*STEM Center LAUNCH!\*\*\*\*\*

When: Fri, Sept 20, 2019, keynote at noon

Where: UNO's Milo Bail Student Center, 2<sup>nd</sup> floor

Who: **Nobel Laureate Dr. Carl Wieman and STEM entrepreneur Alaina G. Levine.**

There will be programming and networking opportunities for students, staff, faculty, community members, and teachers throughout the day. Please view the detailed schedule on our website to join us for part or all of the day.

Students will have the opportunity to learn how to navigate the job market, create new opportunities, and adapt to the changing landscape. Faculty will be able to learn from one of the greatest thought leaders in higher education about STEM pedagogical practices for student recruitment, retention, and long-term learning gains. Stop by to learn about the many exciting STEM initiatives taking place on campus. ALL ARE INVITED, please RSVP on the website's calendar!

Join us on Fridays at noon through the academic year in the Thompson Alumni Center, first floor meeting space for weekly programming. See calendar to RSVP

**1st Fridays:** Pedagogy Seminar Series, featuring translation of best-practices into the classroom in a meaningful, engaging way.

**2nd Fridays:** DBER workshop series, featuring DBER expert-led workshops to model off of methods discussed in the seminar series, aid participants in developing and implementing DBER studies for student engagement, learning, and retention.

**3rd Fridays:** DBER seminar series, featuring local and external speakers on a variety of areas (and sub-disciplines) in discipline-based education research.

**4th Fridays:** Grant writing workshops. These are tailored to be specific to DBER and STEM Education grant writing, primarily to NSF this year. This will include a hands-on, customized workshop to participants by facilitators with more than \$30M in NSF funding.



## How will we succeed as a Center?

The **strategic anchors** of the Center include:

- 1) teaching innovations,
- 2) generating self-sustaining community programs,
- 3) entrepreneurial enterprises

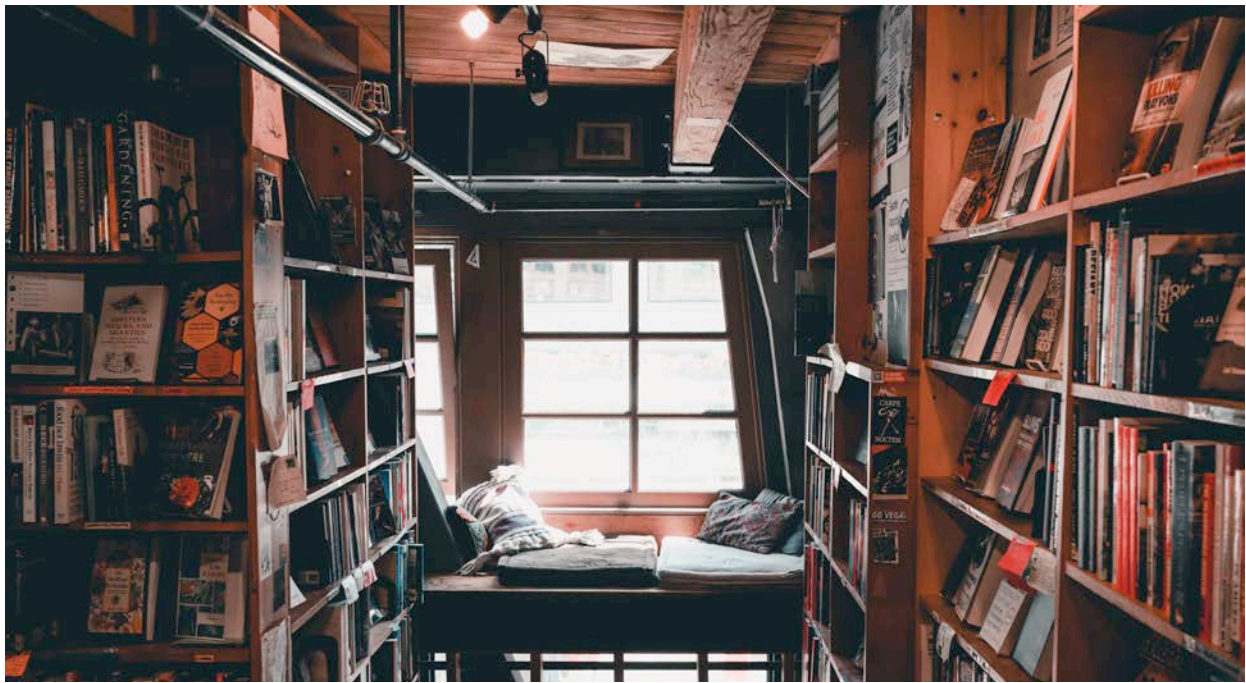
In order to meet the Completion Imperative, meet workforce development needs in Omaha and Nebraska more broadly that we need to both retain our workforce and prepare them for what's next in terms of innovation. Futurists predict that students will be entering jobs that don't exist today within a decade. Moreover, new technologies and innovations will require an ongoing application of research as a pedagogy to ensure adaptability and timeliness. Through these anchors of the Center, we hope to contribute to resolve the workforce challenges of today and well into the future. A critical way we can do this is to provide professional development for educators (faculty, staff, teachers, others) to help them meet their goals. Please join us at an event or request an event/training at [unostemtrailcenter@unomaha.edu](mailto:unostemtrailcenter@unomaha.edu).



**Are you interested in inquiry-based learning in quantitative courses? Check out these resources:**

For more information, check out the Inquiry-Based Learning Iowa-Nebraska Community (IBLINC) <https://sites.google.com/view/iblinc>. Join the group this fall for their next event: MAA Iowa conference: Dordt University, October 25-26, 2019.

To find a regional IBL group to join near you, visit: <http://www.inquirybasedlearning.org/join-a-group>



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

### Press Releases or 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 21<sup>st</sup> 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:

- *Essentialism* by Greg McKeown
- *Quiet: The power of introverts in a world that can't stop talking* by Susan Cain
- *The 7 Habits of Highly Effective People* by Stephen Covey
- *The power of habit: why we do what we do in life and business* by Charles Duhigg

*Do you have a favorite book or article? Please share with us @UNOSTEMTRAILCenter to be featured here*

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

**6001 Dodge Street, Thompson Alumni Center 204B & C | Omaha, NE 68182**

**402.554.2917 | [unomaha.edu](http://unomaha.edu) <https://www.unomaha.edu/academic-affairs/stem-trail-center/index.php>**

The University of Nebraska does not discriminate based on race, color, ethnicity, national origin, sex, pregnancy, sexual orientation, gender identity, religion, disability, age, genetic information, veteran status, marital status, and/or political affiliation in its programs, activities, or employment. UNO is an AA/EEO/ADA institution. For questions, accommodations, or assistance please call/contact the Title IX/ADA/504 Coordinator (phone: 402.554.3490 or TTY 402.554.2978 or the Accessibility Services Center (phone: 402.554.2872). UCTEMP0718

UNIVERSITY OF  
**Nebraska**  
Omaha