



## Mallinson Institute for Science Education – Fall 2023 Newsletter

From the Director – Dr. Charles Henderson



Welcome to the Fall 2023 Mallinson Institute for Science Education (MISE) newsletter!

As this newsletter shows, 2022/2023 was a big year for MISE.

MISE faculty received the two highest faculty awards at WMU: Dr. Henderson was named Distinguished Faculty Scholar, and Dr. Rudge received the Faculty Distinguished Teaching Award.

MISE alumnus, Dr. Ramón S. Barthélemy, was named the 2023 LGBTQ+ Educator of the Year by the national organization, Out to Innovate.

In the spirit of progress and accessibility, we proudly launched an entirely online alternative for all six versions of the MISE PhD programs in Science Education in the Fall of 2023. This innovative initiative sets us apart as the sole Science Education PhD program in the United States that can be pursued online, and quite possibly the only one of its kind worldwide. We are thrilled to provide the opportunity for aspiring scholars to access our high-quality PhD program regardless of their geographic location.

I hope you enjoy this issue of our newsletter.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Charles Henderson', written over a light blue horizontal line.

Dr. Charles Henderson

Director

### ***MISE 2022- 2023 GRADUATES***

#### ***Ph.D. Graduates***

Maryam Bojulaia  
Madison Fitzgerald-Russell  
Allison Witucki  
Jade Woodcock  
Peng (Pearl) Dai

#### ***Master's Degree Graduates***

Brianne Becker  
Lilly Hollingsworth

## **2023 MISE Distinguished Alumni Award Winner – Ozcan Gulacar**



Ozcan Gulacar received his PhD in 2007 from the Mallinson Institute at WMU in Science Education: Chemistry. Since receiving his PhD, Dr. Gulacar has worked as a chemistry professor at three universities, and is currently an Associate Professor of Teaching in the Chemistry Department at the University of California, Davis.

Prior to starting his PhD at WMU, Ozcan taught high school chemistry in Mongolia for six years. At UC Davis, Dr. Gulacar primarily teaches undergraduate chemistry courses. Since starting at UC Davis in 2015, he has taught forty-five courses serving 16,188 students. While teaching these courses he was also able to mentor and train more than 300 TAs in effective teaching methods.

In addition, since 2017, Dr. Gulacar has offered Course-based Undergraduate Research Experience (CURE) seminars to introduce undergraduate students to science education research. Students rate his courses very highly on [ratemyprofessors.com](https://www.ratemyprofessors.com). One of the many highly positive student comments is that: “Professor Gulacar is one of the

most caring professors I have ever had. Even in such a big class, he made it clear that he was rooting for everyone's success. He provided many practice exams and extra problems, and his OH review sessions were recorded and super helpful! The exams were fair and the curves were very generous. Highly recommend.”

In addition to teaching, Dr. Gulacar continues to be active in conducting science education research. His research interests include student problem solving and knowledge structures as well as issues related to incorporating sustainability-related topics into instruction. He has received nearly \$6M in external grant funding to support his research and has published forty-three peer-reviewed research articles. He has recruited and mentored 53 undergraduate students to work with him on chemistry education research projects.

He is known as an innovative and passionate teacher and mentor. He has received many awards related to his research and teaching. These include the Award for Incorporation of Sustainability into Chemical Education from the American Chemical Society (2019), a Fulbright Specialist Award (2020), the College of Letters and Science Teaching Award from UC Davis (2022), and the Best Paper Award from the 5th International Conference on New Approaches in Education (2022).

Dr. Gulacar is highly deserving of the 2023 MISE Distinguished Alumni Award, and we here at MISE are pleased to celebrate his many skills and accomplishments.

## **Alumni in the Spotlight: Ramón S. Barthélemy, Ph.D. (2014)**

Written by **Out to Innovate Awards 2023**

Pasadena, CA, June 20, 2023



### **2023 LGBTQ+ Educator of the Year: Professor Ramón S. Barthélemy, Ph.D.**

The LGBTQ+ Educator of the Year award recognizes an educator who has significantly impacted STEM students through teaching, counseling, advocacy, and role modeling. Dr. Barthélemy is an Assistant Professor of Physics and Astronomy at the University of Utah. Before joining the faculty at Utah, Dr. Barthélemy was a Fulbright Fellow at the University of Jyväskylä, Finland, and an AAAS Science Policy Fellow.

As a Fulbright Fellow, Dr. Barthélemy researched university physics education in Finland. As an AAAS Fellow, he focused on STEM education policies and helped support equity in STEM education. His current position focuses on physics education research, with a broad range of interests from student learning in the classroom to policies that govern the physics community and impact physics careers. His current research focuses on understanding the social network development of Ph.D. physicists who identify as women and/or as part of the LGBTQ+ community. This unique project focuses on Ph.D. scientists beyond academia and includes the government and private sectors. This work aims to better understand how these groups build their professional networks and navigate them to find their definition of career related success.

When asked how his life experiences have shaped his perspective as an educator, Dr. Barthélemy believes, "...being queer has impacted how I think about binaries. I do not see the world as a place where there is one incorrect and one correct answer. Rather I see a very complex world in which multiple kinds of explanations and models can be used to understand our lives and the world around us. As a scientist, this dips into ideas of philosophy of science and how we are not necessarily claiming to have a [capital] T truth, but instead are working to develop and refine models that help us explain and predict the natural world." His nominators noted, "...he combines stellar graduate work in physics education research with some of the deepest and most significant work on gender and LGBTQ+ issues in Physics that has so far been written."

When asked what advice he would give his younger self and scientists just beginning their adventures in physics, Barthélemy "...would tell a younger version of me to trust myself and to build a community of people who support one another and want to see each other succeed."

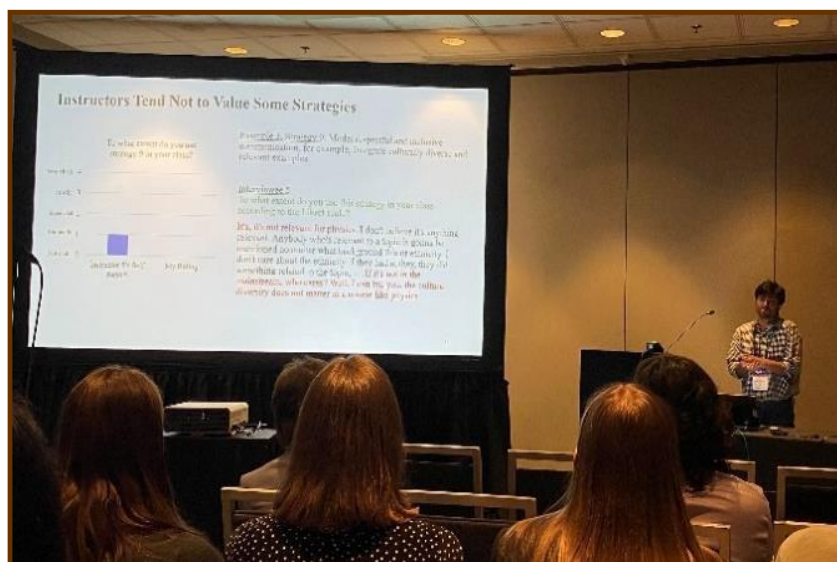


*photo credit to the University of Utah*



## **MISE Ph.D. student Md Sanyat Rabby presenting to the American Physical Society**

Written by Md Sanyat Rabby



I presented my ERR study at the American Physical Society's (APS) April 2023 conference. This is one of the top two most important annual meetings for researchers in the field of physics education research. It was my first talk at any conference in my life. It was a huge opportunity for me to share my work with eminent educators and researchers.

I am always grateful to Dr. Charles Henderson (supervisor) and MISE for helping me at every step towards making me like a researcher and educator.

My presentation was titled "Physics Instructors' Beliefs about and Use of Inclusive Teaching Strategies." Inclusive teaching is a set of instructional strategies that promote more equitable learning outcomes. However, inclusive teaching is not being practiced as extensively as it should be. This research aims to better understand to what extent college-level physics instructors use inclusive teaching strategies as well as their reasons for use or non-use of such practices. I interviewed 12 instructors from different institutions in Michigan who taught introductory calculus-based physics courses in Spring 2022. The participants were asked to describe their use of and beliefs about 21 specific inclusive teaching strategies. Results show that strategies that are related to active learning are mostly used. On the other hand, strategies that acknowledge differences in power and privilege based on personal characteristics and identities are less used, sometimes not used at all. Some instructors feel that the second kind of strategy is not appropriate for an introductory physics course and others feel that they lack the ability to implement these strategies successfully. Overall, this preliminary study suggests that more work is needed to support the full range of inclusive teaching practices within the physics community.

### **Update on a recent Mallinson Graduate**

We recently received an email from Dr. Maryam Bojulaia updating us on her new position at Prince Mohammad Bin Fahd University (PMU) in Saudi Arabia. A portion of her email is copied below:

Dear WMU faculty,

I hope you are doing well and you had a smooth start to the Fall 2023 semester. I am pleased to inform you about my updates. One month ago, I started a new position as an assistant professor at PMU (Prince Mohammad Bin Fahd University), particularly, in the Core Program in the College of Science and Human Studies. Luckily, I teach courses that are related to my research interests, which are enhancing 21st-century skills: Critical Thinking and Problem-Solving, Leadership and Teamwork, and Professional Development. Teaching those courses is so interesting and I am enjoying it.

I really missed the USA, WMU, and MISE Faculty and staff. I hope they all doing well.

All the best, Dr. Maryam



## Graduate College Poster Day April 13, 2023

CONGRATULATIONS to our winners!



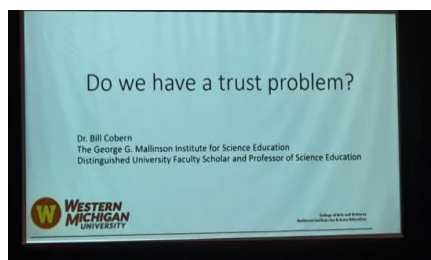
Oluwarotimi (Timi) Popoola – Ph.D. student



Shadi Adineh – Ph.D. student

## Dr. William Cobern in Cappadocia, Turkey

Dr. Bill Cobern was invited and sponsored by the European Science Education Research Association to present one of the plenary lectures at their 2023 meeting. ESERA meets every three years and this year the meeting was held in Cappadocia, Turkey. There were approximately 1200 people in attendance, representing about 50 countries. The title of his lecture was, "Do we have a trust problem?" He was invited to give the lecture based on research that he, Dr. Betty Adams, and Dr. Brandy Pleasants had done on trust. (*see publications page*)





## Congratulations

**Dr. Charles Henderson** was recognized for his exceptional work to improve science, technology, engineering and mathematics (STEM) teaching and learning for undergraduates. He was presented with the **Distinguished Faculty Scholar Award** during the Fall Awards Celebration, Friday, Sept. 29.



Faculty chosen for the award are honored on the basis of outstanding artistic, literary, philosophical, historical, technical or scientific achievement, bringing wide recognition from the academic community beyond Western's campus.

"This award recognizes Dr. Henderson's exceptional contributions he's poured into the field of physics over the years and highlights his dedication to bringing more credibility to his work in the industry," says **Dr. Julian Vasquez Heilig**, provost and vice president for academic affairs. "Congratulations to Dr. Henderson."

Henderson has established an international reputation as a "global thought leader and expert in physics as well as STEM education research, leading numerous projects intended to improve teaching and learning in undergraduate STEM," writes **Dr. Carla Koretsky**, dean of the College of Arts and Sciences, in her nomination.

**Dr. Jose P. Mestre**, professor emeritus of physics and educational psychology at the University of Illinois at Urbana-Champaign, writes, "No one else in this country is better at articulating the landscape of educational reform in undergraduate STEM courses than Prof. Henderson."

## Congratulations

**Dr. David Rudge** was recognized and awarded the **Distinguished Teaching Award** and honored during the Fall Award Celebration Friday, Sept. 29, 2023.

"In his passion and determination to perfect his craft, I have no doubt that Dr. Rudge will continue to drive toward even greater accomplishments in the future," says **Dr. Julian Vasquez Heilig**, provost and vice president for academic affairs. "His dedication to students is commendable and his scholarly research in biological science is exceptional."

Dr. Rudge has been recognized in the past for his exceptional teaching. He won the 2018 College of Arts and Sciences **Faculty Achievement Award** in teaching. In 2022, he received the Michigan Science Teachers Association's Science Teacher of the Year Award, College Level, a career award honoring him for more than 20 years of contributions to the field of science education, and is the first WMU faculty member to have ever earned this award.

"His students appreciate his engaging and helpful teaching style," adds **Dr. Peng Dai**, a recent WMU Ph.D. graduate who worked as a graduate research assistant with Rudge.

"I was struck by his ability to engage students with science stories, reflective discussions and class activities while fostering a welcoming and supportive learning environment. His lectures were clear and well structured," Dai writes. "His ability to convey complex scientific concepts in an accessible and engaging manner was truly remarkable, and he often used real-world examples to illustrate content within a context. Additionally, Dr. Rudge made himself available to students outside of class, meeting with them one-on-one to discuss course material and answer any questions they had."



## MISE Laboratories/Classrooms



The Mallinson Institute for Science Education has undergone some improvements in our teaching and learning spaces in Wood Hall. We now have our own dedicated multi-purpose, enhanced technology room in which we can hold meetings, presentations, classes, seminars, and more. There is still a bit of “room in the room” for science lab activities and demonstrations, but new audio/visual equipment and comfortable seating make 1408 Wood Hall a very pleasant and workable place to hold both in-person and hybrid (partially remote) gatherings.

We further tested its functionality on October 9, 2023, when it held the attendees (about 20 online and more than 20 in the room) at the presentation of a successful dissertation defense by Dr. Lauri Mackelburg-Davis.

**Congratulations, Lauri!** *(pictured below, third from the left, with her dissertation committee)*





## ***Congratulations to our Graduates***



**Dr. Maryam Salman Bojulaia (Fall 2022)  
with Dr. Brandy Pleasants**

**Dissertation: Understanding Creative Pedagogy of  
Saudi High School STEM Teachers: Three Case  
Studies of Mawhiba and Public Science Classes**



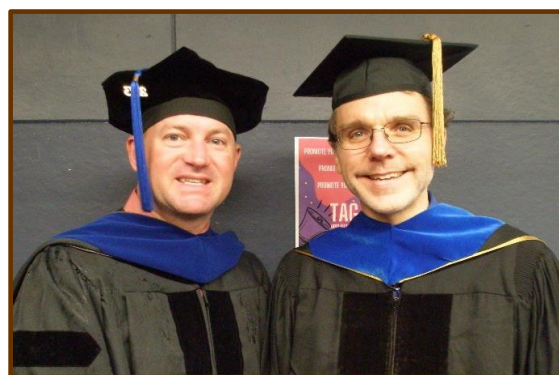
**Dr. Madison Fitzgerald-Russell (Fall 2022)  
with Dr. Megan Grunert Kowalske**

**Dissertation: What We Say Matters: Exploring the  
Importance of Microaggression Language  
for LGBTQ+ Science Major  
Undergraduate Students**



**Dr. Allison Witucki (Spring 2023)  
with Dr. David Rudge**

**Dissertation: Student Experience and Learning in a  
Course-based Undergraduate Research Experience**



**Dr. Jade Woodcock (Spring 2023)  
with Dr. Charles Henderson**

**Dissertation: Examining the Essential Elements  
and Goals of Team-Based Learning in  
Pre-Clerkship Medical Education**



**Dr. Peng (Pearl) Dai (Summer 2023)  
with Dr. David Rudge**

**Dissertation: The Impact of Historical Narratives on Students'  
NOS Understanding and Science Motivation:  
A Proposed Three-Paper Dissertation**



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## **Updates From SAMPI**

Science and Math Program Improvement (SAMPI), housed within the Mallinson Institute for Science Education, conducts client-centered, user-friendly, program evaluations, research, and professional consultations for K-12 schools, institutions of higher education, government agencies, nonprofit organizations, and other education entities. SAMPI increased the number of funded projects from 11 to 12 and annual external funding from \$350,000 to \$385,000 this year. The increased funding means that SAMPI will be looking to hire new research staff this fall. SAMPI Senior Research Associate and MISE Alumni, Dr. Robert Ruhf, retired this year. We also welcomed MISE Alumni, Dr. Allison Witucki, to our team as a research associate.

### **SAMPI Project Highlights:**

The **MiSTEM Network**, part of the Michigan Department of Labor and Economic Opportunity, coordinates a statewide effort to improve Michigan K-12 STEM education through advocating problem-, project-, and place-based instruction. As Network evaluators, SAMPI focuses on documenting MiSTEM partnerships between schools, business/industry, higher education, community organizations, and government agencies. We also collect and report data from all 16 MiSTEM regions across the state related to efforts to provide high-quality STEM experiences to educators and students. SAMPI was recently selected as the statewide evaluator for the Network. This will lead to a greater role for SAMPI as we will now be responsible for evaluation across all funding lines of the MiSTEM Network.

**Project Teaching for Equity and Achievement of Multilingual Students (Project TEAMS)**—a five-year 2.96-million-dollar U.S. Department of Education (USDOE) grant project that continues our external evaluation work with faculty in the WMU Department of Special Education and Literacy Studies. The project seeks to increase the knowledge, skills, and dispositions of teachers working with Multilingual learners (MLs) and their families. It also focuses on increasing the number of teachers certified to teach MLs in Michigan to help address the teacher shortage. SAMPI's role is determining whether participants are increasing their understanding of teaching MLs and improving their practices inside and outside the classroom to better serve ML students and their families.

**New Projects**—SAMPI received notice that an additional U.S. Department of Education grant project with the WMU Department of Special Education and Literacy Studies will be funded this year. The project will expand the work of Project TEAMS and add support for teacher candidates interested in improving their knowledge, skills, and teaching practices related to special education students. The project will also seek to increase the number of teachers certified to teach special education students in Michigan.

**If you are interested in a position with SAMPI or collaborating on a STEM education project, [check out our flyer](#) to learn more!**

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# *Congratulations*

## **2023 All University Award Winner**

**2023 University Graduate Teaching Effectiveness Award**  
**Shadi Adineh**

## **2023 Mallinson Institute for Science Education Award Winners**

**2022–2023 Department Graduate Teaching Effectiveness Award**  
**Shadi Adineh**

**2022–2023 Department Graduate Teaching Effectiveness Award**  
**Christy Kalata**

**2022–2023 Department Graduate Teaching Effectiveness Award**  
**Timi Popoola**

**2022–2023 Department Graduate Research and Creative Scholar**  
**Jade Woodcock**

**2022–2023 Department Graduate Research and Creative Scholar**  
**Allison Witucki**

**Spring 2023 WMU Competitive Travel Grant**  
**Lauri Mackelburg-Davis**

**Spring 2023 WMU Competitive Research Grant**  
**Fadwa Hamad**



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## **PEOPLE OF MISE**

Dr. Charles Henderson – Director of the Mallinson Institute for Science Education and Distinguished University Faculty Scholar and Professor of Physics

Dr. William Cobern – Distinguished University Faculty Scholar and Professor of Science Education

Dr. Heather Petcovic – Chair and Professor of Geological and Environmental Sciences and Professor of Science Education

Dr. Brandy Pleasants – Faculty Specialist II for Laboratory Instruction

Dr. Betty Adams – Senior Laboratory Supervisor and Affiliate Faculty

Dr. David Rudge – Professor of Biological Sciences and Science Education

Dr. Megan Grunert Kowalske – Chair and Associate Professor of Chemistry and Associate Professor of Science Education

Dr. Marcia Feters – Associate Professor of Science Education

Mrs. Dawn Marquardt – Administrative Assistant II

## **Emeritus and Affiliated Faculty**

Dr. Amy Bentz – Faculty Specialist, Secondary Education

Dr. David Schuster – Associate Professor of Physics

Dr. Joseph Stoltman – University Distinguished Professor of Geography and Science Education

## **PEOPLE OF SAMPI**

Dr. Cody Williams – Director of SAMPI

Dr. Mark Jenness – Emeritus Researcher

Ms. Ninah Miller – Research Data Analyst

Ms. Michelle Munetsi – Project Coordinator

Dr. Allison Witucki – Research Associate

## **2022-2023 Publications**

- Bryson, T. C., Grunert Kowalske, M., Wilkins-Yel, K. A., & Housh, K. (2023). "Longitudinal Examination of the Advisor-Advisee Relationship among Black and Latinx STEM Graduate Students." *Journal of STEM Education: Innovations and Research*, 24(1).
- Cobern, William, W., Adams, B., Pleasants, B. A.-S., Bentley, A., & Kagumba, R. E. (2022). Do we have a trust problem? Exploring undergraduate student views on the tentativeness and trustworthiness of science. *Science & Education*, 31(5), 1209– 1238. <https://doi.org/https://doi.org/10.1007/s11191-021-00292-1>
- Couch BA, Prevost LB, Stains M, Whitt B, Marcy AE, Apkarian N, Dancy MH, Henderson C, Johnson E, Raker JR, Yik BJ, Earl B, Shadle SE, Skvoretz J and Ziker JP (2023) Examining whether and how instructional coordination occurs within introductory undergraduate STEM courses. *Front. Educ.* 8:1156781. DOI: 10.3389/feduc.2023.1156781
- DeCamp, W., Horvitz, B., Garza Mitchell, R. L., Kowalske, M. G., & Singleton, C. (2022) Development of a self-report instrument for measuring online teaching practices and discussion facilitation. *PLoS ONE* 17(10): e0275880. <https://doi.org/10.1371/journal.pone.0275880>
- Fitzgerald-Russell , M. L. & Grunert Kowalske ,M. (2023) LGBTQ+ Science Students' Experiences, Perceptions, and Feelings of Discrimination in Their Science Departments, *Journal of Homosexuality*, DOI: 10.1080/00918369.2023.2252964
- Fitzgerald-Russell, M. Kowalske, M. Macroaggression Experiences of Queer Science Students in the Departments. *Journal of Research in Science, Mathematics and Technology Education*. doi: 10.31756/jrsmte.522 <https://www.jrsmte.com/download/microaggression-experiences-of-queer-science-students-in-their-departments-12067.pdf>
- Garza Mitchell, R., DeCamp, W., Horvitz, B. S., Grunert Kowalske, M., and Singleton, C. (2023). "I'm Not Teaching Them Per Se": Teaching Asynchronous Undergraduate Online STEM Courses. *Innovative Higher Education*. <https://doi.org/10.1007/s10755-023-09670-9>
- Gill, A. P., Ellis, T. D., & Henderson, C. R. (2023). Pakistani Chemistry Teachers' Understanding, Beliefs, and Teaching Practice About Climate Change. *Journal of Research in Science, Mathematics and Technology Education*, 6(SI), 161-176. DOI: .org/10.31756/jrsmte.618SI
- Kapmeier, F., Rooney-Varga, J. N., Henderson, C., and Ford, D. N.: Getting to impact at scale: A dynamic analysis to guide propagation of educational innovations in climate change, EGU General Assembly 2023, Vienna, Austria, 24–28 Apr 2023, EGU23-16102, <https://doi.org/10.5194/egusphere-egu23-16102>, 2023.
- Kariri, K.A., Cobern William, & Al Sultan, A.A. (2022) Investigating high school science teachers' readiness for implementing formative assessment practices. *EURASIA Journal of Mathematics, Science and Technology Education*, 18(12) <https://doi.org/https://doi.org/10.29333/ejmste/12589>
- Lenning, E. & Rudge, D. W. (2023) Using the Discovery of Penicillin Resistance to Teach Nature of Science and Natural Selection. *American Biology Teacher* 85(3):135-140–featured article DOI: .org/10.1525/abt.2023.85.3.135
- Nyarko, S. C., & Petcovic, H. L. (2023). Do students develop teamwork skills during geoscience fieldwork? A case study of a hydrogeology field course. *Journal of Geoscience Education* 71(2), 145-157. DOI: 10.1080/10899995.2022.2107368
- Nyarko, S. C., & Petcovic, H. L. (2023). Essential teamwork skills: Perspectives of environmental geoscience employers. *Journal of Geoscience Education* 71(1), 20-32. DOI: 10.1080/10899995.2022.2044665
- Nyarko S & Rudge, D.W (2022) Using the History of Plate Tectonics to Teach Nature of Science. *International Journal of Science Education*, DOI: 10.1080/09500693.2022.2105977
- Ruhf, R.J. Williams, C.T., Zelinsky, M., & Becho, L.W. (2022) Barriers to collecting student participation and completion data for a national STEM education grant program in the United States. *International Journal of STEM Education* 9 (1), 1- 12
- Vishnubhotla, M., Chowdhury, A., Apkarian, N., Johnson, E., Dancy, M., Henderson, C., Lau, A., Raker, J., & Stains, M. (2022). "I use IBL in this course" may say more about an instructor's beliefs than about their teaching. *International Journal of Research in Undergraduate Mathematics Education*, 1-20. <https://doi.org/10.1007/s40753-022-00186-9>
- Witucki, A., Beane, W., Pleasants, B. et al. An Explicit and Reflective Approach to Teaching Nature of Science in a Course-Based Undergraduate Research Experience. *Sci & Educ* (2023). DOI: 10.1007/s11191-023-00441-8
- Witucki, A. M., Rudge, D. W., Pleasants, B., Peng, D. & Beane. W. (2023) Redesigning a Course Based Undergraduate Research Experience for Online Delivery. *Biochemistry & Molecular Biology Education* - <https://iubmb.onlinelibrary.wiley.com/doi/10.1002/bmb.21780>
- Woodcock, J., Henderson, C., Sheakley, M. To what extent do Faculty and Students Believe that Team- Based Learning Supports Important Goals of Undergraduate Medical Education? volume 32, pages1107– 1116 (2022)
- Yik, B. Raker, J. Apkarian, N. , Stains, M. Henderson, C, Dancy, M. Johnson, E. Evaluating the impact of malleable factors on percent time lecturing in gateway chemistry, mathematics, and physics courses <https://link.springer.com/article/10.1186/s40594-022-00333-3>
- Zhang, L., Kirschner, P. A., Cobern William, W., & Sweller, J. (2022). There is an Evidence Crisis in Science Educational Policy. *Educational Psychology Review*, 34, 1157-1176. <https://doi.org/doi.org/10.1007/s10648-021-09646-1>



# **MISE degree programs: Help us spread the word!**

**Doctor of Philosophy in Science Education:** This program is designed for those with a science or science education background who wish to pursue careers as college or university science teachers, science education researchers, science teacher educators, curriculum specialists, high school science department chairs, or professionals in government agencies or school districts. The program is available in person or completely online.

**Concurrent Program (Master's + PhD):** This special program is designed for those wishing to become college- or university-level science teachers or researchers in science education. The concurrent program allows students to be simultaneously admitted to a science master's degree program in Biology, Chemistry, Physical Geography, Geology, or Physics, and to the Mallinson doctoral program in science education.

**College Science Teaching Certificate:** This new 3-course certificate is intended to enhance the skills of individuals who wish to improve as instructors of science in a college setting. The program is open to current graduate students in science departments and to college- level instructors and faculty of science elsewhere.

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## **Donations**

Your support makes learning possible. Making a donation to the Mallinson Institute for Science Education ensures you are empowering the next generation of smart leaders, creative thinkers, and global citizens. Every gift has a direct impact on our students, empowering them with the tools and resources needed to become leaders and givers of tomorrow. Your support makes the extra margin of excellence in the Mallinson Institute for Science Education at Western Michigan University possible. With your contributions, you help graduate students with their science education research and professional development.

If you would like to donate, please make your check out to  
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**Kalamazoo, MI 49008-5403 USA**

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**We greatly appreciate your support!**