MnSTA Newsletter

Volume 69 No. 4 A Quarterly Publication of the Minnesota Science Teachers Association Inc.Summer 2024

St. Cloud Here We Come!

2024 is a special year - eclipses, stunning auroras, and the 60th anniversary of MnSTA! Learn and celebrate with us at MnCOSE24, November 1-2 at St. Cloud University.

What will be there?

Community - Join us Thursday night 10/31 (Halloween!) for an informal welcome reception at the Green Mill! Then make more new connections at Friday and Saturdays' affinity breakfasts and engage with colleagues throughout the conference. We're including a supersized lunch hour Friday for plenty of time with colleagues and exhibitors.

Classroom talk - Nine different rounds of sessions across Friday and Saturday for even more learning, alongside some in-depth workshop options on both Friday and Saturday mornings.

Culture - Check out our workshops on Friday and Sat mornings and join tours and field trips Saturday afternoon to dig in deeper.

Celebration - We'll have two of them to keep the party going! Come Thursday for a welcome reception alongside registration at the Green Mill and join for an anniversary bash with BOWLING and FOOD Friday night at the Atwood Center!

Contribute!! Session proposals and registration are open right now and through the summer - get in early and enjoy a well-deserved vacation!

Great exhibitors are lining up to join us and share their expertise. Our vendors include both commercial providers of educational tools and non-profit organizations to serve you.

Educators across Minnesota are now implementing the new-to-us 2019 standards. Come to learn and come to share what the process looks like in your world. We'll dedicate particular sessions for sharing by grade and/or content area.

Friday night - don't miss the party! What happens when science educators take over the Underground at SCSU on our 60th Anniversary? Come join us for a fun night of celebration and science. Food and fun await as we spend time looking back to where we've come and looking forward to where we're headed.

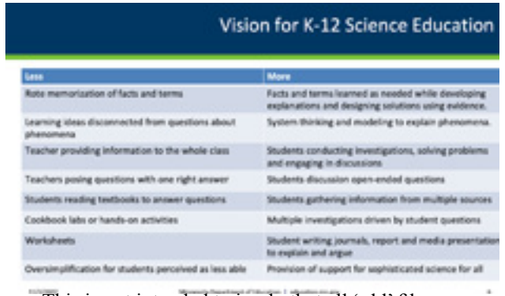
We hope you'll reserve your PD funds and mark your calendars NOW for Oct 31 - Nov 2 for MnCOSE 2024! Watch www.mnsta.org and our socials for all the latest updates!

See page 18 for the tentative daily schedule

President's Message-Jill Jensen

I've got about two and a half weeks left of school. My final lessons are mapped out. I'm starting to think about cleaning out files and ready to toss items I was hanging on to that no longer seem relevant. All of these are a sure sign that summer is around the corner.

As you start thinking about putting an end to the '23-'24 school year, and move forward with three-dimensional learning, this chart from MDE might be helpful if you have the same opportunity to examine digital and physical resources.



Vision for K-12 Science Education

Less	More
Rote memorization of facts and terms	Facts and terms learned as needed while developing explanations and designing solutions using evidence.
Learning ideas disconnected from questions about phenomena	System thinking and modeling to explain phenomena.
Teacher providing information to the whole class	Students conducting investigations, solving problems and engaging in discussions
Teachers posing questions with one right answer	Students discussion open-ended questions
Students reading textbooks to answer questions	Students gathering information from multiple sources
Cookbook labs or hands-on activities	Multiple investigations driven by student questions
Worksheets	Student writing journals, report and media presentation to explain and argue
Oversimplification for students perceived as less able	Provision of support for sophisticated science for all

This is not intended to imply that all 'old' files are bad. Having reflection time this summer might be an opportunity to decide which lessons could be shifted or reframed to bring in more modeling, sense-making and student driven questions.

If you are looking for more inspiration for your classroom next year? MnSTA has lots of options to consider: Check out the links on science standards on our website: https://www.mnsta.org/cgi/page.cgi/MN_Science_Standards.html

Check out our event page for information about in Check out our event page for information about in person and virtual events coming up: https://www.mnsta.org/cgi/page.cgi/events.html

JUST ADDED Physical Science Refresher Register here: https://www.mnsta.org/cgi/page.cgi/event_calendar.html?date=2024-6&evt=82 S

Save the date for fall MnCOSE! Get two days of in-person learning and connections in St. Cloud, November 1st and 2nd: https://www.mnsta.org/cgi/page.cgi/MnCOSE24.html

I hope you find a way to relax and unwind this summer and we, at MnSTA, look forward to connecting with you with more virtual sessions in the '24-'25 school year to support you and your science teaching

Meet Haley Kalina, our incoming MnSTA president. Haley works at Alexandria Public Schools as a STEMand Instructional Coach (K-12 Science, 9-12 Math, Industrial Technology, and World Language)

Hello! I am excited for the opportunity to serve MnSTA as our incoming President beginning in July 2024! I am grateful for the work of our current board members and for the opportunity to partner with President Jill Jensen and am thankful she will remain on the board this year in the Past President role. MnSTA has been working hard to plan for supporting Minnesota's science teachers for the upcoming full implementation of the 2019 MN Science Standards in the '24-'25 school year and looking forward to our 60th Anniversary of MnSTA's presence in Minnesota!

I also wanted to take a moment to introduce myself. I have been a science educator for the past 18 years and have worked with grades K-12 in various capacities. During this time, I have taught 8-12th grade sciences in both public and charter schools. I am currently an Instructional Coach in Alexandria, MN where I get the opportunity to work with K-12 educators focusing on our teaching practices, the student learning experience, and specifically supporting

Teacher Feature

the implementation of the 2019 Science Standards as well as doing peer observations.

I am a lifelong learner and enjoy being with other learners–MnSTA has helped fuel both of these passions of mine! Being a member and board member of MnSTA over the years has provided an amazing network of colleagues I have learned from and whom have also become life-long friends!

I invite you to stay tuned to MnSTA's newsletters, social media, website and emails for opportunities to get involved and for future learning opportunities as we all continue the strong legacy of great science education in Minnesota! I hope to meet each of you during our virtual offerings or at our 60th Anniversary of MnCOSE (MN's Conference on Science Education) in November 2024!

But first…Summer! Take time to celebrate your 2023-24 year and catch your breath!

Our featured teacher for this edition of the MnSTA newsletter is Alison Haugh. Alison is the STEM specialist at Parkview Elementary in the Rosemount-Apple Valley-Eagan school district.

Throughout the school year Alison does a variety of different projects. Her favorite is a lesson taught to fifth grade students focusing on human impact on the environment. For the entire spring, students spend time researching and learning about the impact of human energy consumption on the environment, culminating with final engineering design projects using solar panels and wind turbines. This is one of her favorite projects because students demonstrate immense levels of empathy for our planet, and a strong desire to implement change. In addition it provides students with a sense of power regarding the impact that they can have on the world from a young age.

Playful, hands-on learning with a connection to reality is at the core of nearly everything she teaches. While she strives to meet standards and connect to classroom content, she sees her space as an opportunity for students to thrive in a way that is different from many "traditional" classroom spaces. She has high expectations for all learners, and believe that with guided opportunities to experiment and explore, students can learn more than just science, math, and engineering in her space, but how to be well-rounded, kind human beings as well.

When asked why she chose teaching as a career, she stated, "I originally entered school as a biology major with the intention of studying nursing, but after a year and a half of schooling, I realized that helping others with their school work was something that I enjoyed the most about my program. This led to a degree switch. Not to mention, both of my parents are educators who modeled a great respect for the profession my entire life."

Alison enjoys spending time with her family, especially outdoors. She also has a personal interest in STEM education concepts/the development of critical thinking skills through playful learning for learners under 5 years of age, and has begun exploring this topic more recently in her own time.

Alison is currently a PhD candidate at the University of Minnesota in the department of Curriculum and Instruction, STEM education. At the UMN, she works as a graduate research assistant with an Engineering Research Center funded by the NSF titled "ATP-Bio."

Principal Nicole Garcia stated, "Alison Haugh has revolutionized the way we work with STEM at Parkview by developing critical thinking skills in our students. Students now demonstrate progression as they gain understanding of the engineering design method and scientific process through active problem solving and creating. Her classroom is a fun, hands-on place to be.

Alison is an inspiring colleague. She shares her passion for innovative learning with our entire staff by sharing ideas, collaborating, and bringing ideas to life. Alison has created a climate in our school where staff are invested in building our STEM learning school-wide."

Do you know an exemplary teacher who is deserving to be fieatured in our newsletter? Send me their name and email address.jerrywenzel@brainerd.net

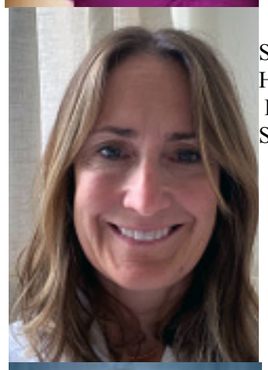
Presidental Awards

Minnesota Finalists Chosen for Presidential Awards for Excellence in Mathematics and Science Teaching

The Minnesota Department of Education (MDE) is pleased to announce that six Minnesota teachers have been selected as 2024 finalists for the Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST).

Minnesota finalists in math are:

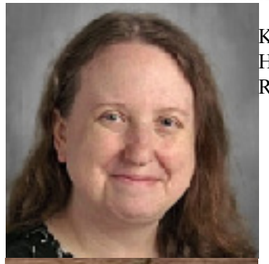
Kristin Cayo, Eden Prairie Schools Forest Hills Elementary School



Sarah Donovan, Anoka-Hennepin Schools Hamilton Elementary School

Mark Nechanicky, Albert Lea Area Schools Lakeview Elementary School

Minnesota finalists in science are:



Krista Wyvell-Fink, Anoka-Hennepin Schools Rum River Elementary School

Kelly Gibson, Saint Paul Public Schools Battle Creek Elementary School

Deanne Trottier, Pequot Lakes Schools Eagle View Elementary School

PAEMST is the nation's highest honor for U.S. K-12 science, technology, engineering, mathematics and/or computer science teachers. The award is administered by the National Science Foundation on behalf of the White House Office of Science and Technology Policy.

The finalists represent the most outstanding teachers Minnesota has to offer, and they serve as both a model and an inspiration to fellow teachers. 2024 Minnesota finalists will be recognized informally during STEM day at the Minnesota State Fair, and formally during the Minnesota Council of Teachers of Mathematics conference and the Min nesota Science Teachers Association conference.

Teachers who are selected as PAEMST awardees receive a trip to Washington, D.C., where they attend a series of recognition events and professional development opportunities. They also receive a $10,000 award from NSF, a Presidential certificate and join an elite cohort of award-winning teachers who can influence STEM teaching in Minnesota and nationwide.

For more information about PAEMST, visit https://paemst.nsf.gov.

Updates on the Minnesota Science Standards. The final PDF version of our 2019 Minnesota Academic Standards in Science was recently updated to include a missing Physics benchmark that was cut off of the last page. Physics benchmark 9P.4.2.1.2 has now been added to the PDF version of our standards document. The spreadsheet version of the standards has and continues to include this benchmark. If you haven't already, please visit our Academic Standards, Science Implementation page to download the most recent version of the 2019 Minnesota Academic Standards in Science.

Looking ahead to full Science Standards Implementation. Full implementation of our 2019 Minnesota Academic Standards in Science begins in Fall 2024, and students will take the MCA IV aligned to the new standards in the Spring of 2025. Similarly, updated language to the Graduation Requirements for Science goes into effect for students entering the 9th grade in the 2024-2025 school year. Please reach out to Angela Kolonich, Science Specialist, if you have any questions.

MCA Science Assessment update

Get involved with the development of the Science MCA. Every year, through Educator and Community Review Committees, Minnesota educators and community members across the state bring invaluable classroom experience, perspectives from teaching diverse students, and engagement with Minnesota Academic Standards to the test development process. This committee participation ensures that the content and question type align closely with best practices in classroom instruction. Each committee is a separate entity that meets for two to four days. When the committee completes their specific review task, a new committee is formed for the next task in the test development process.

1. Sign up for MCA Review Committees Database. Committee members are selected to participate in various meetings throughout the summer. Your input is vital in the development of items to the new science standards.
2. Preview sets of questions developed for the Science MCA-IV. The Testing 1, 2, 3 MCA Content Resources webpage under Science Resources now has released examples of Science MCA-IV items and Educator Guides. The purpose of these resources is to give Minnesota education professionals a few examples of phenomenon-based, multidimensional items aligned to the 2019 Minnesota Science Standards. The guides include information on benchmark alignment and student response data, to provide context for the online released items.

WaterWorks

Do you teach 4th - 10th grade Earth Science Standards?

WaterWorks is a fun, fast and FREE three-day workshop for science teachers on drinking water.

July 29-31, 2024, at St. Paul Regional Water Services, 1900 Rice St., St. Paul, MN

Enrich your water curriculum by investigating drinking water quality, chemistry, engineering, community resources, and practice-based activities for your classroom. This three-day, hands-on workshop allows grade 4-10 teachers of science to gather information from expert presenters about how safe, reliable drinking water is delivered to your community as well as drinking water issues facing Minnesota. Meals and resources provided. Choose between two graduate credits or stipend. Join the ranks of over 450 teachers that have participated in WaterWorks! throughout Minnesota over the last 24 years. Funded by the Minnesota Dept. of Health and the American Waterworks Association.

WaterWorks Application and information at: https://cgee.hamline.edu/cornerstone-programs/professional-development-and-graduate-programs/teacher-institutes/waterworks

Other opportunities include its acclaimed Summer Teacher Institutes! These are FREE, three-day, field-based professional development opportunities designed to increase teachers' science content knowledge and investigation skills.

Sign up and learn more at the links below:

St. Louis River and Estuary Institute - Duluth, MN | June 24-26

Mississippi River Delta Institute - New Orleans, LA | July 8-10

Mississippi River Institute - Minneapolis and St Paul, MN | July 22-24. This year's Mississippi River Institute includes a tour of a wastewater treatment plant!

All 3 institutes include:

- Three full days of experiential instruction and lunch
- 18 continuing education units (CEUs)
- The option to purchase two graduate credits at a reduced rate.

All educators are welcome to apply!

For questions please contact Sara Robertson at Hamline University's Center for Global Environmental Education: srobertson01@hamline.edu

Contacts and Resources

Free resources for teaching how science works

Decoding Science is a free interactive resource from the National Academies of Sciences, Engineering and medicine. It's all vetted by experts and ready to use in your classroom.

A 90-second video on how science works
Clear answers to challenging questions
Stories from real-life scientists
And more…

PLT "Explore Your Environment" K-8 Activity Guide Released

Project Learning Tree (PLT) released a new curriculum guide to engage kindergarten through grade 8 students in exploring their environment. Fifty field-tested, hands-on activities integrate investigations of nature with science, math, English language arts, and social studies.

Educators can obtain a copy of PLT's Explore Your Environment: K-8 Activity Guide directly from PLT's Shop, from Amazon and other places where books are sold, or by attending a local PLT professional development workshop conducted by PLT's 50-state network of 75 coordinators and 1,000 facilitators across the country. Minnesota PLT site

Student Programs, Awards and Competitions

Science and Engineering Competitions

- Science Bowl – middle and high school
- Minnesota Science Olympiad – middle and high school
- Science and Engineering Fair – middle and high school
- FIRST Lego League, FIRST Tech Challenge, FIRST Robotics- All grades
- Supermileage Challenge - High school
- Real World Design Challenge - High school
- Toshiba/NSTA ExploraVision - Classroom based for all grades
- NSTA Angela Award – girls grades 5 – 8
- MN Scholars of Distinction – high school
- National Youth Science Camp – two high school seniors are selected as MN delegates

Minnesota Programs and Competitions

Many competitions, out-of-school programs and field trip opportunities are listed in the Reach for the Stars Catalog of Programs and Activities.

MDE Science Contacts:

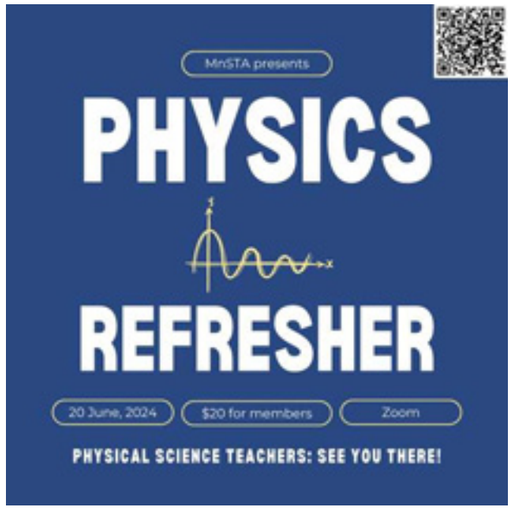
Angela Kolonich, Science Content Specialist
angela.kolonich@state.mn.us
Jim Wood, Science Assessment Specialist
jim.wood@state.mn.us
Judi Iverson, Science Assessment Specialist
judi.iverson@state.mn.us
Sarah Carter, STEM and Computer Science Specialist sarah.carter@state.mn.us
Send submissions for the Science Update to Angela Kolonich angela.kolonich@state.mn.us

Other Minnesota Links:

Minn. Dept. of Education Science Page
Minn. Science Teachers Association mnsta.org
Frameworks for MN Science and Mathematics Standards
Get – STEM Connections between schools and businesses
Mn-STEM STEM programs and resources for families, schools and communitySharing Environmental Education Knowledge environmental education resources
Minnesota Academy of Science: Science Fair, Science Bowl and other competitions Mn DNR Education website: Curriculum, professional development, posters, etc.

Youth Eco Solutions (YES!) – Statewide, youth-led program for hands-on eco related projects

Opportunities



Physics Refresher for Physical Science Teachers

June 20, 2024, 8:30 AM - 3:30 PM

This is a one-day course reviewing the main physics concepts for 8th grade physical science teachers to address the new Minnesota state standards. During the conference we will go over the concepts of forces, energy, momentum and impulse, waves and their interactions, and the use of spreadsheet programs like Google Sheets. When possible potential lesson plans for your classroom will be shared. Feel free to bring your own favorite labs to share with the rest of the participants!

Online

We'll share a Zoom link prior to the event.

Register here

Designed to inspire & engage

Xplorlabs is an educational platform designed to encourage students to "solve through science." It is especially focused on engaging middle-school students during a time in their educational lives when interest in science is shown to decrease dramatically.
https://xplorlabs.org/

In 2025, NASA presents the Human Exploration Rover Challenge and the Drop Tower Challenge – Paddle Wheel

2025 NASA Human Exploration Rover Challenge – Now Open to Grades 6-12
Audience: Formal and informal educators of grades 6-12
Handbook Release: Aug. 1
Contact: HERC@mail.nasa.gov

NASA Human Exploration Rover Challenge (HERC) is an engineering design competition where students design, build, and test a rover to traverse challenging terrains while completing scientific tasks along the way. As an Artemis Student Challenge, HERC draws inspiration from both the Apollo and Artemis missions, emphasizing designing, constructing, and testing technologies.

The 2025 HERC activity year will be open to proposal submissions from teams of students in grades 6-12. The 2025 HERC Handbook and Request for Proposals will be released on August 1. Email the HERC Implementation Team at HERC@mail.nasa.gov for more information about how your students can be a part of this exciting STEM challenge.

2025 Drop Tower Challenge – Paddle Wheel
Audience: Teams of students in grades 8-12
Proposal Deadline: Oct. 31
Contact: Ed-DropTower@lists.nasa.gov

Student teams are invited to design and build paddle wheels that will turn in water because of the wetting properties of their surfaces when they are exposed to microgravity. Paddle wheels from selected teams will be tested in the 2.2 Second Drop Tower at NASA's Glenn Research Center in Ohio. Top performing teams will have the opportunity to present their results in a student poster session at the 2025 meeting of the American Society for Gravitational and Space Research.

Click here for competition details and eligibility requirements.

ESTEP Summer

Boot Camps for 6th Grade Teachers

SUMMER 2024 Boot Camps

Bemidji (June 17 - 21)

North Metro (July 8 - 12)

Rochester Area (July 22 - 26)

Register Here!

http://bit.ly/47MQ8zD

ESTEP Summer

Boot Camps for High School Earth Science Teachers

SUMMER 2024 Boot Camps

Physical Geology/Systems at Fond du Lac Tribal and Community College (June 17 - 21)

Meteorology and Climate at St. Cloud State University (June 24 - 28)

Hydrology (Rocks and Waters) at MSU Mankato (July 15 - 19)

NEW! Earth Systems at TBD METRO AREA (July 22 - 26)

Register Here!

https://bit.ly/3StJfjb

Funding for this project was provided by the Minnesota Environment and Natural Resources Trust Fund as recommended by the Legislative-Citizen Commission on Minnesota Resources (LCCMR).

The MCA-IV will assess the 2019 Minnesota Science Standards beginning in 2025. The assessment will cover all three dimensions of the science standards (3D)

MINNESOTA'S EARTH SCIENCE TEACHER EDUCATION PROJECT

ESTEP LAND WATER SKIES STARS!

Do you or will you teach the new earth and environmental science standards in upper elementary or middle school?

We are happy to announce a new structure to our upper elementary/middle school summer boot camps!

3 days in person (M-W)/2 virtual days* (Th-F)

Bemidji (June 17 - 21) **North Metro (July 8 - 12)**

These workshops will center around **LOCAL GEOLOGY**, and focus on a specified bundle of MN benchmarks. We will work through *3D teaching strategies*, and how to incorporate *literacy*, *Native American ways of learning*, and how to *'Minnesota-fy"* the unit. These skills can be taken back to your classrooms as a template for how to merge your existing curriculum, or write your own specific to our Minnesota benchmarks.

For those wishing to earn 3 graduate credits, the virtual days would be used to work with other participants and our instructors, *virtually via ZOOM*, to complete a mini-storyline, or, for those who have district conscripted curriculum, you would have the option to work on an implementation guide using the skills we've covered earlier in the week. (Two reflections are required to earn credit as well). (Credits are earned through MN State Univ Moorhead)

**For those wishing to earn a stipend*, the rate would be $60 per day, and you are welcome to participate in the 2 virtual zoom days as well. If you do not wish to participate in the Zoom sessions, then you would earn $180 for the three in-person days.

Participant registration is on a first-come, first-served basis. Registration is considered complete when the registration google form is completed, and non-refundable registration fee is received by MnSTA. The non-refundable registration fee is ***$140.00*** *and does not include lodging, meals or transportation.*

What participants are saying about ESTEP boot camps!

"My comfort of these (new to me) Earth Science concepts in conjunction with the new 3-D standards has grown in immense ways. I have gone from being overwhelmed in concepts and the standards to beginning to feel comfortable in writing lessons with the standards and earth science phenomena in mind. I would never have sought to be licensed for (and be excited to teach) Earth Science were there not these amazingly supportive ESTEP courses."

"The program was well set up, ran smoothly, and I came away with material and changes that I can make right away. I also made connections with other teachers with similar content and got even more learning from them as well."

ESTEP is funded through 2025 through generous grant funding provided by the Minnesota Environmental and Natural Resources Trust Fund as recommended by the Legislative-Citizen Commission on Minnesota Resources (LCCMR).

WOLF RIDGE℠
ENVIRONMENTAL LEARNING CENTER

ATTENTION: SCIENCE TEACHERS GRADES 4–12!

Student scholarship opportunity for outdoor learning on the North Shore.

Thanks to funding partners, Wolf Ridge Environmental Learning Center, located in Finland, Minnesota, is offering scholarships to schools.

DOES YOUR SCHOOL QUALIFY?

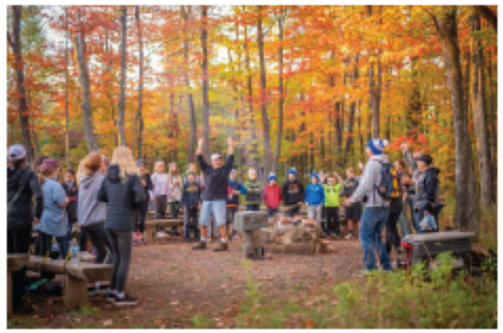
Your school may qualify for scholarships at either the school-wide or individual student level. Scholarships can be used for tuition, lodging, and meals for 3 days/2 nights or 5 days/4 nights for students in grades 4–12, for groups from 15 to 350 people. School year and summer programming is available.

ABOUT WOLF RIDGE

Wolf Ridge is an accredited residential environmental school located on the North Shore featuring a nationally recognized curriculum that aligns with state academic standards, Common Core, and Next Generation Science Standards. Instructors involve students in the direct observation, inquiry, and exploration of wild forests, wetlands, lakes, and streams.

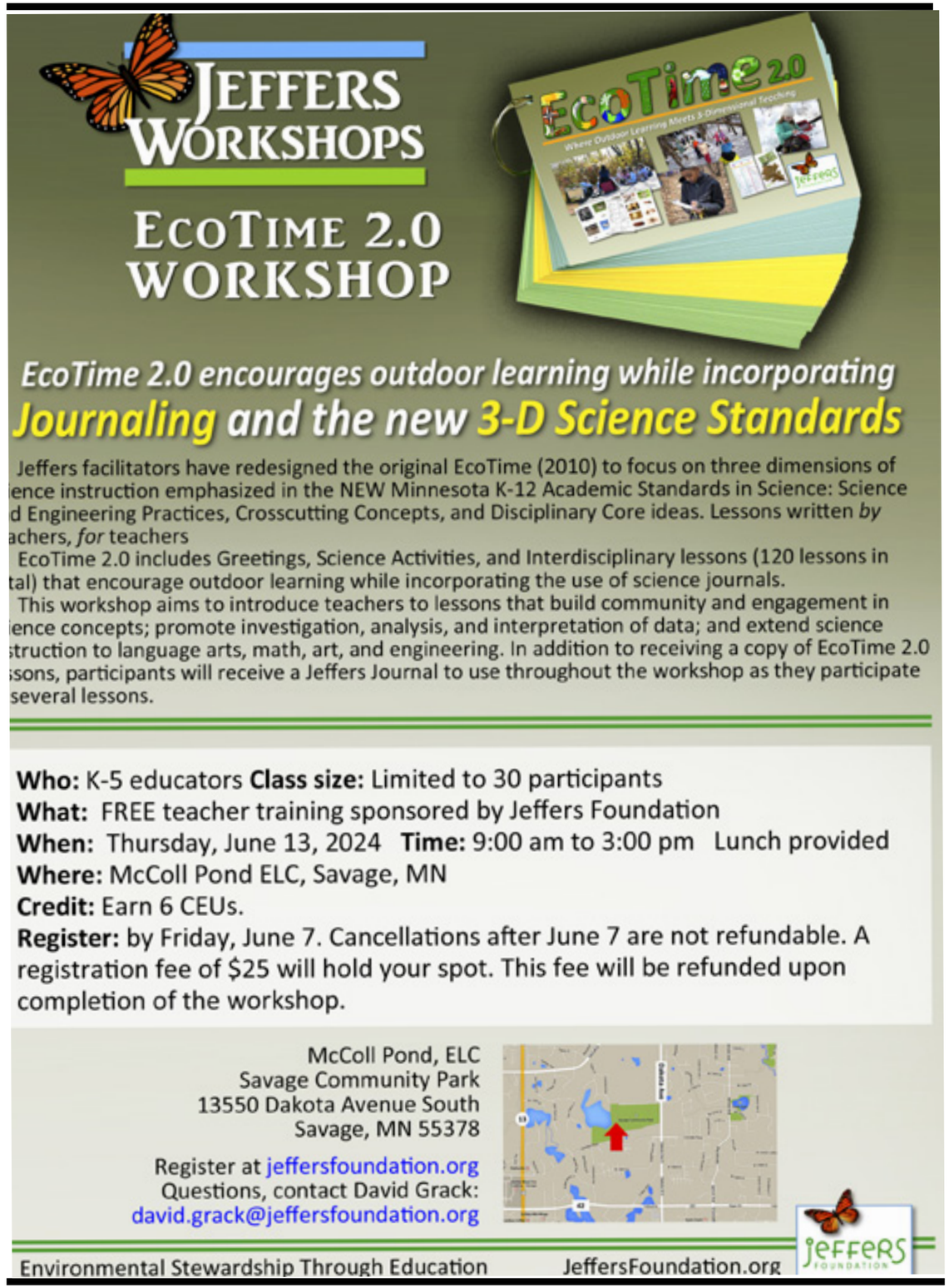
Features include:

- 2,000-acre classroom on the North Shore
- 68-acre field station on Lake Superior
- 18 miles of hiking and ski trails
- Multiple lakes and streams
- Dining hall with produce from our organic farm
- Indoor rock-climbing walls and outdoor ropes courses



INTERESTED?

Please reach out to Wolf Ridge K–12 Program Coordinator Emily Pavlisich (scheduling@wolf-ridge.org or 218-353-7414, ext. 107) with questions or to find out if your school is eligible for scholarships. Learn more at *wolf-ridge.org/programs/educators/k-12-class-trips*.



JEFFERS WORKSHOPS

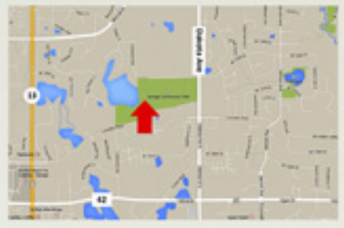
Bring Engineering and ELA together with some help from Mother Nature...

Elementary Engineering WORKSHOP

Join us to be immersed in **hands-on engineering challenges** that incorporate **outdoor learning** and **detailed record keeping with a journal,** and develop your skills to lead **engaging interdisciplinary engineering** challenges for your elementary engineers...*naturally*.

What: Who: K-5 Educators **Class Size:** Limited to 30 participants
When: Tuesday, July 30, 2024 8:00am - 4:00pm - Lunch will be provided
Where: McColl Pond ELC, Savage, MN
Credit: Earn 8 CEUs
Register online: jeffersfoundation.org A registration fee of $25 will hold your spot. This fee will be refunded upon completion of the workshop. Register by July 22. Cancellations after July 22 are not refundable.

Children's literature is rich in storylines that promote readers to ask questions and imagine solutions to the challenges that characters encounter throughout the stories. This Jeffers workshop aims to bring these storylines to life and engage participating K-5 educators as engineers. Participants will go beyond imagining solutions, to plan, create, test, and improve engineering designs using items and solutions found outdoors on one's school grounds. Jeffers facilitators will model interdisciplinary instruction using literature that includes elementary science core ideas to promote engineering challenges that meet multiple science, engineering, and ELA standards.



McColl Pond, ELC
Savage Community Park
13550 Dakota Avenue South
Savage, MN 55378
Questions, contact David at:
david.grack@jeffersfoundation.org

Environmental Stewardship Through Education JeffersFoundation.org

JEFFERS WORKSHOPS INSTITUTES

PATTERNS IN NATURE INSTITUTE

Explore nature to identify patterns in the structure, function, and behavior of plants and animals

This institute is designed to provide the spark educators need to raise student interest and engagement as they explore and investigate plant and animal natural patterns and behaviors while learning outdoors.

Who: Teachers, naturalists, and environmental educators, grades K-12. Limited to 15 participants
What: FREE professional development by David Grack, Ed.D. Sponsored by Jeffers Foundation
When: Monday, June 17th - Wednesday, June 19th, 2024 - 8:00 AM - 4:00 PM - Lunch included
Where: The Chalet at Bertram Chain of Lakes Regional Park, 4 miles SW of Monticello, MN
Registration/CEU's: Earn 30 CEU's. Register by June 7, 2024. A registration fee of $40 will hold your spot. This fee is refunded upon completion of the institute. Cancellations after June 10 are not refundable.
Participating teachers receive Teacher Lookit, and MN Weatherguide Calendar. Classroom teachers eligible for a class set of Jeffers Journals.
Need lodging? A campground, including camper cabins, is available in the park. Reservations can be made at co.wright.mn.us (camping fees are not covered by Jeffers)

Plants and animals have adapted in many ways to survive in a variety of habitats in Minnesota. Participating educators will gain an understanding of plants and animals as they study forest and tree structure, animal signs and tracks, bird body structure and adaptations, insect and flower interactions, and phenology. Through hands-on experiences, participants will conduct field observations and studies while using a nature journal, gaining experience teaching and learning via three-dimensional science instruction, as promoted in the new Minnesota Science Standards. The combination of topics and the focus on journaling aim to help participating educators gain a higher understanding of the plants and animals in our natural environment while implementing creative journaling experiences.

Bertram Chain of Lakes Regional Park
Bertram Lake Chalet
9842 Briarwood Ave NE
Monticello, MN

Register online: jeffersfoundation.org
Questions, Contact David Grack:
david.grack@jeffersfoundation.org

Investigating and Journaling through the Seasons

PHENOLOGY WORKSHOP

Discover how you can elevate your students' observation skills and development as writers and artists through interdisciplinary experiences that focus on seasonal patterns in nature.

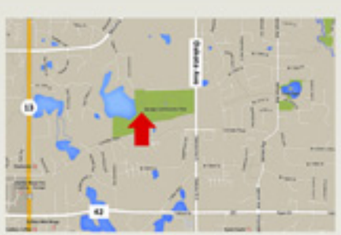
JEFFERS WORKSHOPS

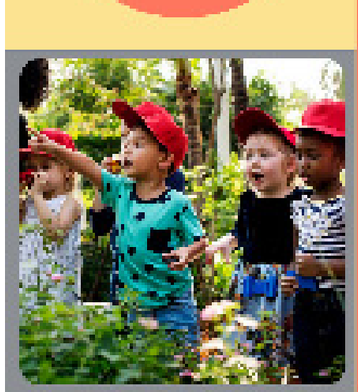
This workshop focuses on biological and physical events in nature and their relationship with weather and climate. This is the science of Phenology. Humans and the diverse communities of animals and plants in Minnesota have adapted to cyclical weather and climate patterns that come with the changing of seasons. Join the Jeffers foundation to learn more about Minnesota Phenology and better understand seasonal patterns through observation, investigation, and journaling exercises. Actively participate in lessons and receive resources that have been developed by Minnesota educators that provide place-based experiences that will elevate your instruction of science, ELA, math, social studies, and art while meeting K-8 standards across those subject areas.

What: Who: K-8 Educators **Class Size:** Limited to 30 participants
When: Wednesday, July 31, 2024 8:00am - 4:00pm - Lunch will be provided
Where: McColl Pond ELC, Savage, MN
Credit: Earn 8 CEUs
Register online: jeffersfoundation.org A registration fee of $25 will hold your spot. This fee will be refunded upon completion of the workshop. Register by July 22. Cancellations after July 22 are not refundable.

Questions, contact David Grack at:
david.grack@jeffersfoundation.org

McColl Pond, ELC
Savage Community Park
13550 Dakota Avenue South
Savage, MN 55378





MSTA The Minnesota Science Teachers Association

LOOKING FOR SUPPORT FOR ELEMENTARY SCIENCE?

Minnesota Science Teachers Association has an offer for you.

NEW

MNSTA IS OFFERING A $75 BUILDING MEMBERSHIP TO COVER ALL TEACHERS IN YOUR BUILDING

All teachers receive access to the monthly newsletter and online resources as well as member rate for the annual conference.

TO LEARN MORE:

Metro:
Lee.Filipek@district196.org

Out-state
kandy.nolesstevens@smsu.edu

MnCOSE24 Tentative Schedule

Thursday, Oct 31

7 - 9 PM Registration and Welcome Reception Green Mill @ Kelly Inn, St. Cloud (Exhibitor Check-in at Atwood)

Friday, Nov 1

7:30 - 8:45 Affinity Breakfast
Welcome/General Session at 8:00
9:00 - 12:00 Workshops
9:00 - 9:50 Session 1
9:50 - 10:20 Break and Exhibit Time
10:20 - 11:10 Session 2
11:25 - 12:15 Session 3
12:15 - 1:30 Lunch and Exhibit Time
1:40 - 2:30 Session 4
2:30 - 3:00 Break and Exhibit Time
3:00 - 3:50 Session 5
4:00 - 4:50 Session 6
5:00 - 7:00 60th Anniversary Celebration Event Annual Meeting Trivia, Food, Activities

Saturday, Nov 2

7:30 - 8:15 Affinity Breakfast
8:30 - 12:00 Workshops
8:30 - 9:20 Session 7
9:30 - 10:20 Session 8
10:30 - 11:20 Session 9

Lunch on your own

1:00 - 3:00 Local Field Trip Options

MnCOSE 24
MnSTA Conference on Science Education
Celebrating 60 years of MnSTA

Keep Your MnSTA Profile Up-To-Date

MnSTA does its best to keep you abreast of everything happening in science education in Minnesota. We do this via several outlets including:

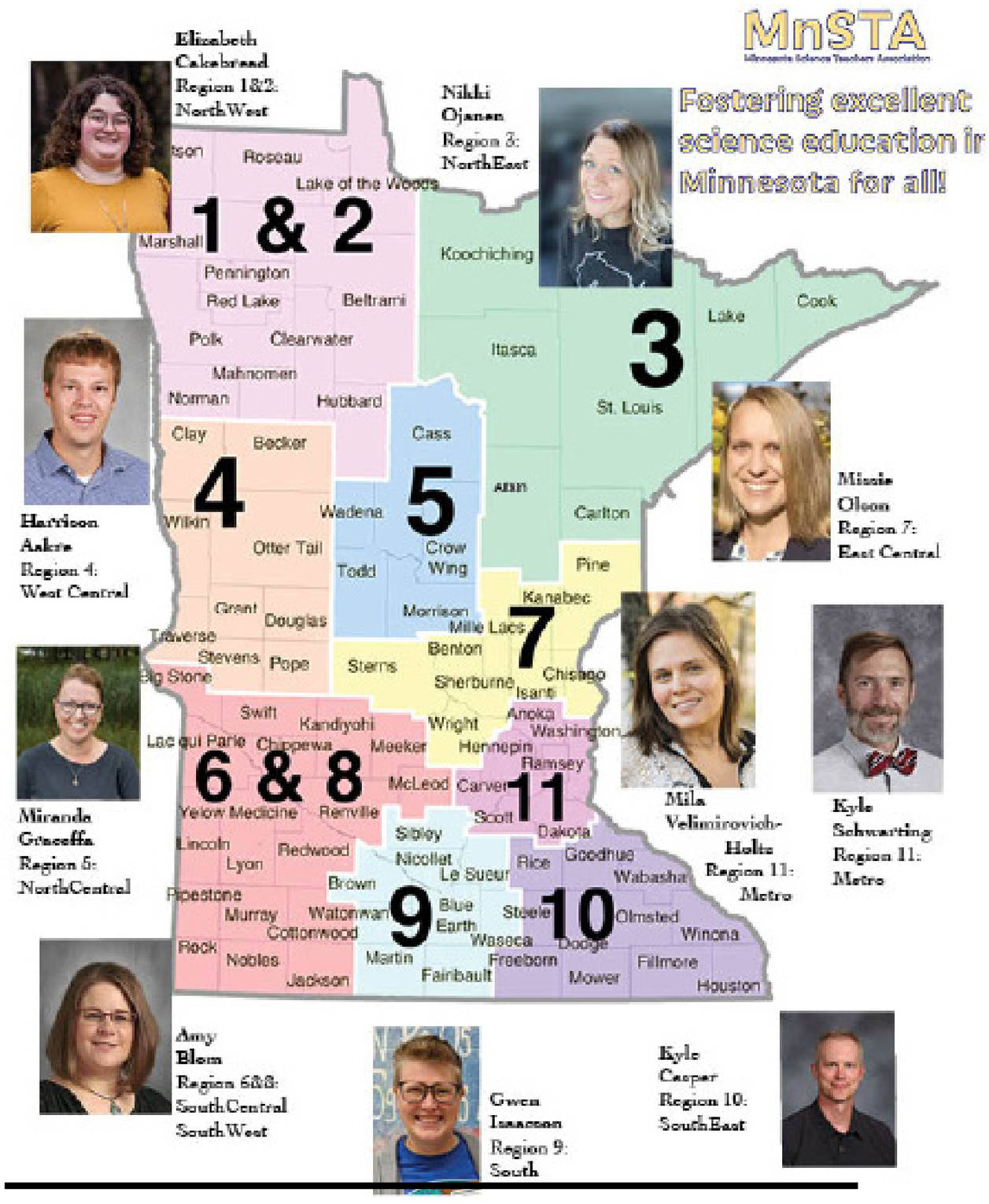
- MnSTA Website www.mnsta.org
- Instagram @mnscienceteachers
- MnSTA Facebook and Twitter pages (@MnSTA1)
- Weekly Digest of postings (sent via email)
- Updates from MDE Science Specialist Angela Kolonich (newsletter)
- Quarterly Newsletter (availability announced via email)
- Occasional email messages to all members

The best way to make sure you are receiving email notices and all of the above information, please make sure that MnSTA has your correct email address, mailing address, and your permission to send this information to you. Your profile also contains information about your school, disciplines you teach, and the grade levels you work with. These can all be updated at any time.

You can update your MnSTA profile by going to the MnSTA website (www.mnsta.org) and logging in. Click on the My Profile link. You will then see links to Update Profile, Update Addresses, Update Photo, and Change Password. If you have any questions about this, please feel free to contact MnSTA.

MnSTA, Inc. is an IRS 501 (c) (3) Charitable Educational Corpora-tion, incorporated as a tax exempt, non-profit organization with the Minnesota Secretary of State. Donations and dues are tax deductible charitable contributions for itemized deductions on IRS form 1040 Schedule A. The newsletter is an exempt program service provided to the membership. A membership form is found on the last page

Region Reps



MnSTA Board Directory

Below, you will find information about your MnSTA Board Members. The listing includes the board member's school (or organization), mailing address, work phone, FAX number, and e-mail address. The board wishes to make itself as accessible as possible for our members. Please feel free to contact your discipline representative, regional representative, or executive board members if you have ideas, concerns, or wish to help with the mission or operation of MnSTA. We are always looking for members who wish to serve MnSTA as Board Members, Non-Board Service Chairs or Members, and as Committee Chairs or Members.

Executive Board:

Exec. Secretary	Karen Maier 320-370-7958	St. Cloud Area School Dist. 472 karen.maier@isd742.org	1000 44th Ave N. St. Cloud MN 56303
President-Elect	Haley Kalina 320-762-7900	Alexandria Public Schools haleykalina@gmail.com	510 McKay Ave N. Alexandria, MN 56308
President	Jill Jensen 952-423-7581	Scott Highlands Middle School president@mnsta.org	14011 Pilot Knob Rd. Apple Valley, MN 55124
Treasurer	John Olson	Metropolitan State Univ. treasurer@mnsta.org.	700 E. 7th St. St. Paul, MN 55107
DOE Science Specialist	Angela Kolonich	angela.kolonich@state.mn.us	

Discipline Directors:

Biology	Michelle Housenga 612-720-5705	Minneapolis Washburn HS Michelle.housenga@mpls.k12.mn.us	201 West 49th St. Minneapolis, MN 55419
Earth Science	Dana Smith 218-333-3215	Bemidji Middle School dana_smith@isd31.net	1910 Middle School Ave. NW Bemidji, MN 56601
Chemistry	Shelly Munoz 320-468-6485	Pierz Healy HS ShellyMunoz316@gmail.com	112 Kamnic St. Pierz, Mn 56364
Elementary/Greater MN	Robin Knutson 218-454-6123	Forestview Middle School robin.knutson@isd181.org	12149 Knollwood Dr. Baxter, MN 56425
Elementary/Metro	Kelli Ellickson	Cedar Park Elementary STEM School	7500 Whitney Dr. Apple Valley MN55124
Higher Ed	Vacant		
Informal Ed	Caitlin Potter	Cedar Creek Ecosystem Science Reserve caitlin@umn.edu	2660 Fawn Lake Dr. NE E. Bethel 55005
Alternative Ed.	Jess Paulson 952-852-0129	Sciences Academy jpaulson@jgesa.org	8008 83rd St. NW Maple Lake, Mn 55358
Physics	Jason Hall	Academy of Holy Angels jhall@ahastars.org	6600 Nicollet Ave. Richfield, MN 55423
Indigenous Science	Hillary Barron 218-428-2689	Bemidji State University hilliary.barron@bemidjistate.edu	1500 Birchmont Dr. Bemidji, 56601
Private Schools	Open		

Region Representatives:

Region 1&2: North	Elizabeth Cakebread 218-784-5300	Ada-Borup-West School elizabethc@ada.k12.mn.us	604 W. Thorup Ave. Ada, MN 56510
Region 3: Northeast	Nikki Ojanen 218-879-3328	Cloquet Middle School nojanen@isd94.org	2001 Washington Ave. Cloquet, MN 55720
Region 4: Westcentral	Harrison Aakre haakre@alexschools.org	Alexandria Area High School	4300 Pioneer Rd. Alexandria, MN 56308
Region 5: Northcentral	Miranda Graceffa 218-330-6154	Crosslake Community School mgraceffa@crosslakekids.org	36972 Cty Rd 66 Crosslake, MN 56442
Region 6&8 Southcent	Amy Blom 507-442-7881	Edgerton Public ablom@edgertonpublic.com	423 1st Ave. W. Edgerton, MN 56128

MnSTA Board Directory

Region 7: Eastcentral	Missie Olson	Becker High School	12000 Hancock St. Becker, MN 55308
	320-274-3341	molson@isd726.org	
Region 9: South	Gwen Isaacson	Loyola Catholic School	145 Good Counsel Dr. Mankato, MN 56001
		gisaacson@loyolacatholicschool.org	
Region 10: Southeast	Kyle Casper	Rochester Public Schools	615 7th St. SW Rochester MN 55902
Region 11: Metro	Mila Velimirovich-Holtz	University of Minnesota	2088 Larpenteur Ave. W. St. Paul, MN 55113
		velim002@umn.edu	
Region 11: Metro	Kyle Schwarting	ISD 196	3455 153rd St. W Rosemount, MN 55068
	651-423-7740	kyle.schwarting@district196.org	

Ancillary Positions:

Database	Mark Lex	marklex@umn.edu		
Webmaster	Eric Koser	Mankato West H.S.	1351 S. Riverfront Dr.	Mankato, MN 56001
	W: 507-387-3461 x 322	F: 507-345-1502	webmaster@mnsta.org	
Newsletter	Jerry Wenzel	jerrywenzel@brainerd.net		
Social Media Coord.	Dan Voss	dcvoss1@gmail.com		

NSTA Dist. IX Director	Angela Osuji	Washburn High School	201 W 49th St. Minneapolis, Mn 55419	
	612-668-3400	Angela.Osuji@gmaiil.com		
Conference Coordinator	Eric Koser	Mankato West H.S.	1351 S. Riverfront Dr.	Mankato, MN 56001
	W: 507-387-3461 x 322	F: 507-345-1502	e: ekphys#gmail.com	

Events Calendar

If you have events you want placed on the calendar, send them to the editor - see page 2 for deadlines, address, etc.

Conferences / Workshops

MnCOSE '24: Nov 1-2, 2024 St. Cloud

MnSTA Membership Application Form

Join the Minnesota Science Teachers Association (MnSTA), the professional organization whose primary goal is the advancement of science education. Mail this form along with your check to: MnSTA Treasurer, 24405 Iceland Path, Lakeville, MN 55044

Home

Name (First, MI, Last)

Address

City | State | Zip code

Phone number

Preferred email address

Second email address

School/Organization

Name

Address

City | State | Zip code

Phone number

School district #
(enter "P" if Private, "A" if Alternative, "C" if Charter)

Rates

- ❑ Basic Membership $25
- ❑ First Year Teacher $15
- ❑ Retired Teacher $15
- ❑ Pre-service Student..... $10
- ❑ Elementary School Building $75
  Includes all teachers in the building
- ❑ Life Membership: to age 35 ..... $400
  age 36-50 ..... $300
  over 50 ..... $200

❑ New Member ❑ Renewing/Past Member

A joint MnSTA - NSTA membership is available through NSTA (https://www.nsta.org)

Discipline and Grade Level

- ❑ Biology
- ❑ Chemistry
- ❑ Earth Science
- ❑ Environmental Sci
- ❑ Life Science
- ❑ Physical Science
- ❑ Physics
- ❑ Elementary (PreK-2)
- ❑ Elementary (3-6)
- ❑ Middle/Jr. High School (6-9)
- ❑ High School (9-12)
- ❑ College/University
- ❑ Informal Ed

MnSTA Photo Release Statement

By becoming a member of the Minnesota Science Teachers Association (MnSTA) or by attending any MnSTA-eponsored event, you are granting permission for the use of your image for MnSTA promotional purposes without compensation. If you have questions regarding this policy, please contact membership@mnsta.org

Privacy Information

Who can view your School/Organization Profile? ❑ Members ❑ Administration only

MnSTA keeps you informed about the events and issues impacting science education in Minnesota through its website and an email Digest of those website postings, and periodic informational emails.

Do you consent to receive email communications from us? ❑ Yes ❑ No

Teacher Leadership

❑ Please contact me regarding additional involvement and/or potential leadership opportunities with MnSTA