It's time for the 35th annual Minnesota Earth Science Teachers' Association conference!

Friday, February 4, 2022

Get to know your fellow Earth science teachers from across the state at the Minnesota Earth Science Teachers' Association Annual Conference. Concurrent breakout sessions feature master Earth science educators and noted geoscience professionals. The conference includes breakfast, lunch, teaching resources and door prizes for attendees.

This conference supports the teaching of the MN Earth and Space science benchmarks articulated in the MN Academic Standards in Science.

Thursday, February 3
Optional visit to National Weather Service Office
5:00pm-6:30pm
(Arrive 15 minutes early to ensure attendance for weather balloon launch promptly at 5:00pm.)
1733 Lake Drive West, Chanhassen, MN 55317
(952) 361-6670
$10 fee as noted on the registration form.

6:30-8:00pm: Optional dinner and social
Information will be sent to participants at a later date.
(Dinner at your own expense.)

Friday, February 4
Conference
7:45am-3:00pm
District 287 Conference Center
1820 North Xenium Lane, Plymouth, MN

Minnesota Earth Science
Teachers' Association (MESTA)
753 103rd Ave. NE
Blaine, MN 55434

CLOCK HOURS AND TDE
Re-licensure clock hours are available at this conference. Consider connecting your TDE goals to teaching techniques and knowledge gained at this conference.

FOR MORE INFORMATION
Conference event information:
Brian Allison
(brian.allison@delanoschools.org)

Conference registration questions:
Jeff Lynum
(jefflynum@gmail.com)

Online:
https://www.mnearthscience.org/

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REGISTRATION FORM

Registration is non–refundable.

Please print.

NAME:_____

EMAIL:_____

SCHOOL: _____

PREFERRED ADDRESS:

_____

CITY, STATE, ZIP

_____

PREFERRED PHONE: _____

REGISTRATION OPTIONS

- ☐ $105 Basic Conference Registration
- ☐ $55 Pre-service Teacher / Full Time College Student

CONFERENCE REGISTRATION WITH MnSTA MEMBERSHIP

- ☐ $130 Basic Conference Registration
- ☐ $120 First Year Teacher / Retired Teacher
- ☐ $65 Pre-service Teacher / Full Time College Student

COMPLIMENTARY BREAKFAST AND LUNCH

Note any dietary restrictions below. We will try to accommodate, if possible.

_____

_____

OPTIONAL THURSDAY EVENING EVENT

- ☐ Add $10 if you will be attending this program.

TOTAL AMOUNT _____

To register by mail with a check (payable to MESTA), send this form to 753 103rd Ave. NE, Blaine, MN 55434.

To register online with a credit card, go to **https://www.mnearthscience.org/**

KEYNOTE SPEAKER

Exploring Minnesota's Fossil Record & Museum Collections

Dr. Alex Hastings, chair of Paleontology, Science Museum of Minnesota

The paleontological resources of Minnesota extend back more than 2 billion years, with a wide variety of geologic times and life represented. From tiny shelled creatures to massive marine predators to hulking mammoths, there is a lot to learn from Minnesota's ancient past. Plus, Minnesota's museums hold even more impressive records of ancient life from beyond our state, allowing paleontologists to address global issues affecting life and climate change. Join Alex Hastings in the educational potential of Minnesota fossils and an introduction to the Minnesota State Fossil initiative.

Dr. Hastings received his Ph.D. in Geological Sciences from the University of Florida. His research interests include studying fossil reptiles and predators, and human-induced changes to reptile and amphibian populations.

PRE-CONFERENCE THURSDAY EVENING EVENT

View a weather balloon launch and learn how the pros prepare weather forecasts.

Join us at the National Weather Service (NWS) office in Chanhassen just before their 5pm launch of a weather balloon and radiosonde, then stay for a tour and discussion of weather forecasting with a representative from the National Weather Service.

Participants have the option of meeting colleagues for a social gathering, networking, and dinner at their own expense after the program. More information will be sent to participants at a later date.

CONCURRENT SESSIONS

The Minnesota River and the Muddy Water Blues

Dr. Carrie Jennings, Adjunct Assistant Professor, Research and Policy Director, Freshwater Society

Late glacial events primed the Minnesota River watershed to develop rich prairie soils and face a future of river adjustments that continue to this day. The ways we use and drain the land have accelerated those adjustments and exacerbated problems with sediment and nutrients. Nearly every river reach and lake in the basin is impaired and considered un-swimmable or unfishable. Learn how we can reverse the degradation and mimic a more natural state for this key agricultural headwater of the continent.

Breakdown the Three Dimensions to Intentionally Empower Learning

Alesia Arlandson, Science Teacher and Instructional Coach, Lakeville Area Public Schools

Explore strategies for transforming your instruction through the Three Dimensions of Learning. Practice methods that encourage students to deepen their observations and form curiosity questions. Take away practical strategies that are ready for implementation.

Building the Periodic Table Out of Stardust

Dr. Jennifer Anderson, Associate Professor, Winona State University

Every Hydrogen atom in your body is about 13.8 billion years old, created during the Big Bang when our Universe formed. Every other atom in the Periodic Table was formed in the center of stars as they lived and died. In this session, you will explore how the chemistry of our Universe evolved from the Big Bang to today. Learn how the different types of stars in our Milky Way Galaxy use nucleosynthesis to burn up and create new elements in their cores and how this material, formed deep within these stars, is spread out through the Galaxy to create more stars in this grand cosmic cycle.

Infrared Radiation and the Greenhouse Effect

Rachel Humphrey, Assistant Professor, St. Cloud State University

Learn how to turn everyday objects into a simple model of the greenhouse effect. By using infrared thermometers, sheets of plastic, and water, participants will collect and graph their own data to learn how the concepts of selective absorption, emission, and radiation are visualized in this quick-and-easy simulation. No fancy technology required! This presentation will highlight the application of science and engineering practice 4 and cross-cutting concept 7.