

# Nebraska Science News



Nebraska Academy of Sciences



Nebraska Association of Teachers of Science

***Serving Scientists and Science Educators Across the State of Nebraska***

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## FROM THE NAS PRESIDENT'S DESK

As winter approaches, the end of the first half of classes has us busy and we can't help but to think about the even busier second half! Between teaching, grading, committees, coaching, and the inevitable red tape associated with everything, it's a wonder we persevere as well as we do. But with the coming winter, I also know that the astronomer's season is upon us. We can look forward to the long nights and low humidity air that allows us to enjoy the spectacles of the night sky more so than any other time of the year. Of course, one should bundle up and bring some hot cocoa in a thermos (perhaps with a little Schnapps?) but be sure to take the time and bring your family and friends with you. It is through trying to understand the stars, Moon, planets, and other astronomical wonders where many begin a journey down a scientific path, or at least a healthy appreciation for science. Arguably, it is through trying to understand the motion of Mars that the science came to be in the first place! So, bring out those telescopes and binoculars, go to your local observatory, or even host your own star party. And while waiting for those clouds to clear, be sure to tell your family and friends that the Earth is closer to the Sun in the winter than in the summer; what a great opportunity to help them understand the seasons!

I'd like to take a moment to thank the representatives of NAS, NATS, and NJAS who were able to attend and contribute to our board retreat on November 4<sup>th</sup>. We began excellent discussions about policies and procedures, finances and sponsorships, membership recruitment, professional and student opportunities, and revamping the websites of all three organizations. The discussions started with some of the members in attendance; be sure to contact your executives if you wish to join those

discussions. It is encouraging to know that so many were willing to give up a Sunday to help improve how we can better serve the scientists, educators, and students in Nebraska!

Lastly, I'd like to thank the NAS Executive Secretary, Michelle Lopez, for her continued good work and diligence. Without her steady hand at the wheel, we'd be drifting off course quickly. Have a wonderful holiday season everyone!

Todd Young, NAS President  
Wayne State College

## NATS PRESIDENT NEWS and VIEWS

Greetings! We are well into the 2018-2019 school year and the first year of implementation of our new College and Career Standards for Science. The Nebraska Association of Teachers of Science (NATS) has been busy over the past year providing professional development opportunities for the teachers of Nebraska to aid in this transition to our new standards. In April, NATS, the Groundwater Foundation and the Henry Doorly Zoo hosted the first pop-up conference at the zoo. This was followed by pop-ups at the Hastings Library and the Lake McConaughy Visitors' Center in June, and at the Homestead National Monument in October. At each of these conferences, teachers learned about phenomena in the classroom, how to use the available Groundwater Foundation education resources, and the educational opportunities at each of the host sites. In June, NATS helped to host formative assessment workshops in conjunction with the Nebraska Department of Education and Lincoln Public Schools. Educators had the opportunity to learn about what 3D assessment looks like and began

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crafting their own formative assessments. September brought the 2nd Annual NATS/NATM joint conference in Kearney, NE. The theme was Access and Equity. Keynote speakers included Dr. Lisa White from the University of California Museum of Paleontology and, Dr. Christa Jackson from Iowa State University.

I am excited to take what I have learned over the summer and begin to implement it into my classroom. The concept that our new standards are better preparing our kids for his/her future is what drives me to continue to change my teaching philosophy into three-dimensional learning. It is not easy to change but I understand that the direction of science education is going will make our students better citizens. NATS is working very hard to help educators in this transition. We will continue to offer our one-day conference and this year we are working with the 4-H Extension office. The goal is to provide professional development throughout the school year and to provide these opportunities closer to our members home. NATS is in the process of continuing our work with our Professional Learning Network (PLN). PLN's are once per month conference calls that discuss a variety of different topics from storylines to phenomenon. This year we are working with our Kansas association to have Kansas educators share during this time as well as educators from Nebraska. It is our goal that we will have topics determined and announce these during our fall conference in Kearney NE. We are excited about the fall conference once again this year and our continued relationship with our math counterparts. I hope everyone has a wonderful start to the school year.

Betsy Barent, NATS President  
Norris School District



## NJAS NEWS

**Nebraska Students Will  
be Attending AJAS  
Conference**

The American Junior Academy of Science is honored to welcome Nebraska delegates, their teachers, parents and the Nebraska Academy of Science representatives to the AJAS/NAAS/AAAS conference February 13-17, 2019, in Washington D.C. AJAS is America's only honor research society for high school scientists. Each Affiliated state's Academy of Science selects high school researchers from their state to be lifetime "fellows" in AJAS. The conference is always held in conjunction with the American Association for the Advancement of Science's (AAAS) Annual Meeting.

Nebraska has eleven students that will present their research in a poster and round table session at this conference. The students are from the following High Schools:

- Christine Gilmore-Omaha Central
- Bria Gilmore-Omaha Central
- Morgan Baker-Adams Central
- Daniel Stara-Aquinas Catholic (Attending for the third time)
- Jasmine Galvin-Laurel-Concord
- Sydnie Reeves-Central City (Attending for the second time)
- Hanna Olson-Zoo Academy
- Anjali Pullabhotla-Millard North
- Levi Woodward-Allen Consolidated (Attending for the second time)
- Amirtha Arun-Omaha Marian (Attending for the second time)
- Katie Bathke-Allen Consolidated (Attending for the second time)

The AJAS conference will host some of the nation's most talented high school student researchers for a "Breakfast with Scientists" held in conjunction with the 2019 annual meeting of the American Association for the Advancement of Science. The breakfast will be a unique opportunity for students to receive advice and encouragement from scientists working at the top of their fields, among them the Nobel Prize laureates.

The new "STEM" state standards are designed to promote science, technology, engineering and mathematics in Nebraska by providing incentives for students to apply creativity and critical thought to solutions of science. It is especially critical to maintain leadership in the "STEM" fields as those nurture innovation and serve as the engine of modern society.

Science research brings brilliant young minds together to create a project that can compete for and win various awards, establish a new collaboration for future research, and discuss career possibilities with scientists and engineers from colleges and industries. Students will develop a scientific project, write an abstract, and give an oral presentation the day of the competition. Nebraska has six regional science competitions for Grades 6-12. Each regional will select six senior high and six junior high projects to compete at the state level on April 11th at Nebraska Wesleyan University. [CLICK HERE](#) for forms and other information.

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Congratulations to Sydnie Reeves from Central City. Sydnie will be attending the AJAS conference for the second time and has recently been accepted to publish her science research in the Journal of Emerging Investigators. [CLICK HERE](#) to read the article.

Randall Lienemann  
NJAS President

## DATES TO REMEMBER

*\*Click on the date below to learn more\**

[PIE Grant 1st Quarter Application Deadline – January 7, 2019](#)

[NJAS State Science Competition – April 11, 2019](#)

[NAS Annual Spring Meeting – April 12, 2019](#)

[Nebraska State Science Olympiad – April 27, 2019](#)

## SCHOLARSHIPS

NAS offers several annual collegiate and high school scholarships. The deadline to apply for collegiate scholarships is February 1, 2019, the deadline to apply for high school scholarships is March 1, 2019. Scholarships range from \$100 to \$1500. [CLICK HERE](#) to learn more and to apply!

## BECOME A SCIENCE TEACHER WITH THE UNL MAsT PROGRAM

The UNL Master of Arts with an emphasis in science teaching (MAst) program is a 14-month program designed for qualified graduate students who have earned a bachelor's degree outside the field of education and who can commit to an intensive and accelerated pathway to a career in the teaching profession. [CLICK HERE](#) to learn more!

## EARTH EXPEDITIONS GRAD COURSE

Earth Expeditions grad course through Miami University offer firsthand experiences at critical conservation field sites in Africa, Asia, Australia, and the Americas. The due date to apply is January 28, 2019. [CLICK HERE](#) to learn more.

## AMTA COURSES FOR SPRING AND SUMMER 2019

**Chemistry II** (for people who have taken first semester chemistry already): Brenda Royce and Larry Dukerich will lead the class, which runs from 1-22-2019 till 4-10-2019, from 7 to 10 pm EST. For details and registration [CLICK HERE](#).

**Intro to Modeling** (Designed as a first Modeling Course): The course will meet twice a week; on Monday and Wednesday January 15- April 25, 2019, with leaders Janelle Hollingshead and Matthew Kennedy. For details and registration [CLICK HERE](#).

**Advanced Modeling Instruction:** Cognition and Instruction in STEM: The seminar is meant for Modelers and will be led by Colleen Megowan-Romanowicz. The class meets from 01/17/2019 - 05/02/2019. For details and registration [CLICK HERE](#).

The 2019 **face-to-face Modeling Workshops** are posted on the website as we receive the information. Workshops have been planned for Arizona, California, Illinois, Indiana, Maine, Massachusetts and Ohio. [CLICK HERE](#) for more information. Workshops are scheduled for physics, chemistry, biology, middle school and physical science.

## THOMAS EDISON PITCH CONTEST

Win a 3D printer for your school by participating in the 8<sup>th</sup> Annual Thomas Edison Pitch Contest! Registration opens in January 2019.

Thomas Edison once said "There's a better way to do it - find it!" We are extending this challenge to you, your children, and your students. Through STEM-based innovation, research, and team work, students will create their own inventions to solve problems that they see in the world today. The top 6 teams will be invited to pitch their ideas to a panel of professionals for a special event at the Thomas Edison National Historical Park Museum.

Although January may seem like a long time from now, we encourage teachers to begin talking to their students about the contest putting together their teams ASAP. We have put together an info sheet that you can distribute to students and parents ([Find it here!](#)). **Teachers will receive a \$300 stipend for your time after the contest is completed!**

To learn more about the contest and what is expected of each team [CLICK HERE](#).

## FREE “SCIENCE FAIR” DVD FOR YOUR CLASSROOM

Sponsored by National Geographic, the documentary titled “Science Fair,” filmed at a science fair in Los Angeles and the 2017 ISEF in Pittsburgh, is free on DVD and available for your classroom! A short trailer is available for preview [HERE](#). To obtain your free copy, [CLICK HERE](#) by December 12, 2018, to submit your request.

## APS ONLINE TEACHER PROFESSIONAL DEVELOPMENT PROGRAM

SIX STAR SCIENCE ONLINE TEACHER (OT) PROFESSIONAL DEVELOPMENT PROGRAM – \$1,400 STIPENDS PAID (for completed work)

This program is a 10-month online pedagogy-based professional development that focuses on the three Dimensions in the Next Generation Science Standards: Scientific Practices; Cross Cutting Concepts (especially “Cause and Effect” and “Structure and Function”), and Core Ideas (Life Sciences) and on expanding teacher skills in three major areas: 1) Updating Teacher Content and Pedagogy Knowledge; 2) Understanding the Research Process; and 3) Applying Six Star Science in the Classroom. Fellows **receive stipends** for completion of their online work.

**Online Teacher (OT) Fellows** participate in a dynamic and interactive virtual learning community that focuses on exploring effective teaching strategies, understanding the research process, and enhancing classroom materials. **Application deadline: January 31, 2019.** [CLICK HERE](#) to learn more.

## BECOME A 2019 CDC SCIENCE AMBASSADOR

The Centers for Disease Control and Prevention (CDC) is recruiting teachers and educational leaders to bring public health into middle and high schools across the United States and beyond. Would you or someone you know be a great candidate for the CDC Science Ambassador Fellowship? [CLICK HERE](#) to learn more!

## TAKE A SURVEY TO ASSIST WITH A NEW BOOK SERIES

The College of New Jersey is seeking educators to help gather tried and tested teaching strategies for their book series: Building your Teaching Toolbox (to be published by Rowman & Littlefield).

They currently have a contract for five books that will focus on practical strategies related to classroom climate, planning, instruction, and professional dispositions. The hope is to represent effective approaches used by teachers across the nation in various and diverse school contexts. To do so, a simple survey has been developed that takes approximately 10-15 minutes to complete. Please [CLICK HERE](#) to visit the survey.

Educators who complete the survey are automatically entered into a raffle to win a \$10 Amazon gift card if the survey is completed by December 31, 2018.

Please be assured that the College of New Jersey will credit all contributors to this work. They may even be asking some contributors to take part in focus groups or to video themselves implementing a strategy (if they are not camera shy!). More to come as this develops!

## PIE GRANTS REPORT

NAS announced that it will receive \$57,600 from the Nebraska Environmental Trust for the “Nebraska Environmental Public Information and Education Minigrant Program”. The Trust Board announced funding for the project at its meeting on April 5, 2018 in Lincoln. The project is one of the 105 projects receiving \$18,301,819 in grant awards from the Nebraska Environmental Trust this year.

The Nebraska Environmental Public Information and Education Minigrant Program will award Minigrants of up to \$3,000 each, to support the presentation and dissemination of information and perspectives that will stimulate enhanced environmental stewardship in any category eligible for Nebraska Environmental Trust (NET) funding. These categories are habitat, surface and ground water, waste management, air quality, and soil management. The grants seek to expand dialogue on important current conservation topics and to provide information on emerging or highly useful conservation methods. All Nebraska individuals, private organizations, and public entities are eligible to apply for these funds. This program will be administered by the Nebraska Academy of Sciences.

The Nebraska Legislature created the Nebraska Environmental Trust in 1992. Using revenue from the

Nebraska Lottery, the Trust has provided over \$289 million in grants to over 2,000 projects across the state. Anyone – citizens, organizations, communities, farmers and businesses – can apply for funding to protect habitat, improve water quality and establish recycling programs in Nebraska. The Nebraska Environmental Trust works to preserve, protect and restore our natural resources for future generations. <http://www.environmentaltrust.org/>

Seven fourth quarter 2018 PIE grant applications were received and processed in October. Applicants include the Nebraska Recycling Council – Advancing Recycling Behavior Change through Social Marketing; Aquatic Society of Omaha – Applying 4H and Scout Knowledge for the Community; Platte River Whooping Crane Maintenance Trust – Crane Trust Portable Time-Lapse Camera Project; Nebraska Extension in Burt County – Tekamah Pollinator Garden; Habitat for Humanity of Omaha – Habitat ReStore Deconstruction Program Outreach; ESU 5 – Nebraska Giganto Map – Not Just for Social Studies; Civic Nebraska – Think, Make, Create Trailer. Recipients will be selected in December.

First quarter 2019 applications are due January 7, 2019.

Grant forms and information can be found on our website by [CLICKING HERE](#).



The Nebraska Science News is a publication of the Nebraska Academy of Sciences, a private foundation associated with the American Association for the Advancement of Science.

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