

Nebraska Science News



Nebraska Academy of Sciences



Nebraska Association of Teachers of Science

Serving Scientists and Science Educators Across the State of Nebraska

Summer, 2020-2021

Volume 23, No. 4

Published by the Nebraska Academy of Sciences

FROM THE NAS PRESIDENT'S DESK

With the NAS President's summer newsletter we usually have the opportunity to celebrate the success of our NAS Annual Spring Meeting, State Science Olympiad, and Science Fairs. This year is different. We are currently experiencing a worldwide pandemic resulting from the spread of COVID-19 to nearly every continent. Event shutdowns and quarantines hit our state in March, cancelling or postponing our in-person spring events. As I write this letter, we are still watching daily reports of those sick or dead as a result of COVID-19. Many businesses have limited services and operating hours or are closed. Primary and secondary schools, colleges, and universities sent students home for the remainder of the spring semester to complete their schoolwork. In Nebraska alone, tens-of-thousands of employees are now working from home. The impact of the coronavirus will be widespread and devastating. While I hate to sound negative, life has been unexpectedly turned upside-down.

As we are getting used to the new normal that quarantines and social distancing have brought us, we certainly will emerge changed. We have already begun to work, learn, and play differently. New terms like, "webinar fatigue" and "Zoom fatigue" have entered our lexicon as many professionals spend 5 or more hours per day in computer-based web conferencing. Teachers and students have quickly moved to online learning. You will now hear the words, "I survived the semester!", from teachers, students, and parents alike. In the local grocery store you will find many patrons wearing facemasks, touching fewer items, and using hand sanitizer before, during, and after leaving the store. Face masks are becoming so commonplace that you even see people wearing them while driving.

(Continued on Page 2)

NATS PRESIDENT NEWS and VIEWS

I hope this letter finds you well, mentally and physically, during this time. As I worked with teachers in my district and homeschooled my three elementary-aged children, I realized what a powerful time in history this is and how straining it has been, as well. Being in Grand Island, I haven't been anywhere for quite a while and I am looking forward to science solving this global issue (and having less Zoom meetings).

NATS took advantage of the opportunity that everyone was at home, contacted National Science Education experts, and held a week-long virtual unconference, over Zoom, in April. Each day we reached our maximum sign-up of 100 participants! We had the opportunity to engage and learn from some of the best. All of the Zoom PDs are on our website for your viewing [HERE](#). Presenters included:

- TJ McKenna, a professor at Boston University, lead facilitator for NG SX (ngsx.org) and founder of ngssphenomena.com.
- Kate Henson, a former high school biology teacher who recently earned a PhD in science education. At inquiryHub she works to support educator use of high quality, three dimensional science curricula and pedagogy that facilitates equitable participation in science classrooms.
- Okhee Lee, an award-winning education scholar committed to reform. She is widely known for advancing research, policy, and practice that simultaneously promote science and language learning for all students, including English learners. Dr. Lee has previously been the Keynote Speaker for the NATS Fall Conference.

(Continued on Page 2)

Continued from Page 1 – From the NAS President’s Desk

It is hard to guess when life will get back to normal. However, I believe the impacts of coronavirus will certainly last in our habits, how we interact with others, and our approach to life.

While we were unable to have our NAS Annual Spring meeting in person, we were able to conduct some of the meeting’s regular activities. For the first time, we invited student members to share their presentations virtually. We had 25 students share their research via PowerPoint and recorded videos. These presentations are available for NAS members to view and enjoy through June 2020. We hosted our business meeting virtually on April 24th with 26 active NAS members participating from home. The Nebraska Academy of Sciences selected Drs. Tiffany Heng-Moss and David Harwood of UNL as our 2020 Friends of Science. Congratulations to you both for your long service and commitment to science and science teaching in Nebraska – well deserved. They will be recognized in-person at the 2021 meeting.

One of the goals of the Nebraska Academy of Sciences is to recognize and support young scientists. Two \$1,500 collegiate scholarships were presented to Luis Daniel Estrella, Wayne State College, and Pranav Ojha, UNO. High school scholarships awarded included the Robert S. Kubicek Memorial Scholarship for \$500 to Arcelia Marquez-Soto, Bellevue West High School; Loren Eiseley Memorial Scholarship for \$500 to Ethan Roberts, Lourdes Central Catholic School; Lincoln Gem and Mineral Scholarship for \$300 to Matilda Malcolm, Wauneta-Palisade High School; Marie and Howard J. Taylor Scholarship for \$100 to Renee Box, Lourdes Central Catholic School; and the Marian O. and Bertrand Schultz Memorial Scholarship for \$750 to Emily Nelson, Papillion LaVista South High School. Congratulations to these next generation scientists! This spring, NAS members also selected new board members. Welcome David Harwood as NAS President-elect, Danielle Peekenschneider as NAS Secretary, and Ann Marie Shibata and Jason Price to the long-range planning committee.

In a normal year, there is lots of planning that happens to make the annual spring meetings a success. This year involved lots of extra work due to the meeting’s cancellation. Thanks to Bob Fairchild and Connie Thorson of Nebraska Wesleyan University for their help in discussing annual meeting space leading up to the meeting and providing real-time information regarding the status of events at NWU due to COVID-19. Thanks to the many section chairs for organizing oral presentations and posters. A very special thanks to Michelle Lopez, NAS Executive Secretary, for her hard work planning the meeting and dealing with the fallout of its cancellation and coordinating

the virtual presentations. Finally, thanks to the many board members that provided advice regarding the meeting. Your advice experience has been invaluable in this difficult time.

As we look forward to the rest of year, we are in good hands with our new President, Sally Harms of Wayne State University. Sally’s many years of experience as an educator in both K-12 and post-secondary settings is representative of the diverse membership of NAS and is needed as we move forward. During the next several months we need to now, more than ever, promote the value that scientists and science teachers have in our society. The public is looking for understanding and answers in dealing with COVID-19. We have an opportunity and duty to help our citizens become more science literate, to enable them in making better decisions regarding their health and safety and in electing leaders that understand the value of science discovery.

Doug Golick, NAS President
University of Nebraska-Lincoln

Continued from Page 1 – NATS President News

- Abe Lo, a science educator at BSCS Science Learning, whose expertise involves designing research-driven innovations to support meaningful science teaching and learning.
- Kathy Renfrew, an elementary educator who has made it a mission to help others learn about using phenomenon-driven units. She is currently a field editor and adviser to NSTA, an Ed Reports reviewer, and an Education Specialist at the Wade Institute for Science Education. Ms. Renfrew is also a committee co-chair for the Council of State Science Supervisors.

In other PD news:

- OpenSciEd was a success in February!
- The NE MINK&CO sessions finished up on April 16th with participants from 5 different states!
- Unfortunately, NGSSenseMakers, originally scheduled for July 20th-23rd at ESU 9 in Hastings, has been postponed. We will be getting more information out to you on the website once that event is rescheduled.
- Currently, we are still planning on our Fall Conference in Kearney on Oct 1-3 to take place IN PERSON. We hope to see you there!
 - Head over to our website under Fall Conference Information <https://nebraskaacademyofsciences.wildapricot.org/NATSFC> to get all the details.
 - Registration will start in August
 - “Call for Presenters” is open now!

- o Again, Thursday evening will have a keynote and other fun activities that will be FREE! Friday we have **Mark Windschitl**, Ambitious Science Teaching, as our Keynote, as well as these sessions for Friday and Saturday:

- Elementary STEM Workshops
- EL/IEP Accommodation in Science/Math
- Elevating Instruction for Leaders
- Share-a-thon / Makerspace
- 3D Learning and Teaching Routines
- Assessment
- Implementation Experiences
- Administrator's Perspective

Finally, and most importantly, CONGRATULATIONS on finishing this semester! It will be a memorable time in our history and you all are amazing for your commitment to educating our students through an international pandemic that will be remembered for centuries to come! Please stay healthy! If you have any questions always feel free to email me at acovarrubias1@gips.org. Have a wonderful summer!

Anya Covarrubias, NATS President
Grand Island Public Schools



NJAS NEWS

NJAS State Virtual Science Research Competition

As our communities work to navigate the disruptions caused by the COVID-19 pandemic, Nebraska Junior Academy of Science has developed alternatives to continue our mission of supporting student science research. Thanks to the input of the NJAS Regional Directors and NJAS Board of Directors, the Nebraska Junior Academy of Science activities are now rescheduled for June.

The new guidelines for students to submit for State judging are through an online submission of their research paper which contains the abstract, an uploaded video of no more than 8 minutes to explain their research, and a photo of their display board or screenshot of their poster. Their projects will then be judged. Many students will receive scholarships, cash awards, medallions and certificates. Some senior projects will be selected to present their research in a poster and round table session at the AJAS/AAAS conference next February in Phoenix, Arizona.

NJAS would like to thank all the students 6-12 grade across Nebraska for all the hard work they have done this year on

their science research projects. We hope that this revised format will provide them with a way to present and win many awards.

Randall Lienemann
NJAS President

DATES TO REMEMBER

Click on the date below to learn more

[PIE Grant 3rd Quarter Application Deadline – July 6, 2020](#)
[2020 NAS Virtual Spring Meeting – through June 30, 2020](#)

SUMMER STEM INSTITUTE; A VIRTUAL SUMMER PROGRAM FOR HIGH SCHOOL STUDENTS

Summer STEM Institute (SSI) is hosting a virtual summer program for high school students. The program consists of a data science bootcamp, Masterclass lecture series, and computational research project. Mentorship and lectures are led by top students and graduates from Stanford, Harvard, MIT, and other leading institutes. The research portion of the course will be taught by Franklyn Wang, a teaching assistant from Harvard and the research mentor of the 3rd place national winner of the 2019 Regeneron Science Talent Search (STS). [CLICK HERE](#) to learn more and to apply!

AMTA'S VIRTUAL DISTANCE LEARNING COURSES

The American Modeling Teachers Association (AMTA) and local hosts have worked to create and offer virtual professional development courses in 2020. There are offerings in content areas such as Mechanics, E&M, Waves, Chemistry I & II, Biology, and Middle School. AMTA continues to bring virtual happy hours, webinars, and modules. Check the [WEBSITE](#) often for updates!

KEEP KIDS ENGAGED IN SCIENCE THIS SUMMER

Plant scientists and Microbiologists at the University of Nebraska-Lincoln are collaborating with Lincoln Public Schools, Lincoln STEM Ecosystem, and the Young Nebraska Scientists on a series of free, socially distanced outreach activities for learners of all ages! These will include educational videos on plant ecosystems in Nebraska, scavenger hunts in Lincoln, videos on how to identify common plants in your neighborhood, and a wide variety of K-12 at-home backyard science experiments linked to ongoing research activities at UNL. Check out [Lincoln STEM](#)

[Ecosystem](#) and [Young Nebraska Scientists](#), and the [Backyard Plant Science Projects](#) in the coming weeks to access these exciting resources!

THOMAS EDISON PITCH CONTEST 2020 WINNERS

The 10th anniversary for the Thomas Edison Pitch Contest was able to reach a record-breaking 500+ students in 21 states despite a worldwide pandemic. To learn more about the finalists and their inventions, [CLICK HERE](#) to view the latest blog or [CLICK HERE](#) to watch the full final event!

REGION III MIDWEST AND PLAINS EQUITY ASSISTANCE CENTER'S VIRTUAL ROUNDTABLE SERIES

Region III Midwest and Plains Equity Assistance Center is hosting a virtual roundtable series in June titled Families Learning from Families. This is a discussion and learning forum for families with and from each other to support their children and loved ones during the COVID-19 pandemic. This is a parent/caregiver only event, so please pass this information to parents and caregivers in your network. [CLICK HERE](#) to learn more and to register!

2020 FRIEND OF SCIENCE AWARDS



Dr. Tiffany Heng-Moss currently serves as Dean for the College of Agricultural Sciences and Natural Resources (CASNR). Since joining the University of Nebraska-Lincoln (UNL) faculty in 2001, Dr. Heng-Moss has developed and taught both undergraduate and graduate courses along with providing leadership for the development and

implementation of multiple academic degree programs in the College of Agricultural Sciences and Natural Resources. She is passionate about teaching; focuses on student success; is excited about agriculture and science; and motivates students to want to learn.

Dr. Heng-Moss currently provides leadership for NebraskaSCIENCE, which is a partnership initiative among the Colleges of Arts and Sciences, Education and Human Sciences, and Agricultural Sciences and Natural Resources; contributes to the Institute of Agriculture and Natural Resources' (IANR) science literacy program that is focused on providing education platforms for the continuum of learners in resilient food, energy, water and societal systems; has facilitated the development of the undergraduate Life Sciences curriculum at the University of Nebraska-Lincoln; and has partnered with Nebraska schools to offer food, energy, and water systems experiential learning opportunities to K-12 students and educators.

In her role as dean, Heng-Moss has led the development of the college's graduate education framework, college-level attributes, a smart enrollment growth framework, and the first education compact in Nebraska. She has authored/co-authored over 85 refereed teaching and research articles and secured over \$50 million in teaching/outreach grants and \$9 million in research funds. Heng-Moss has received several teaching awards, including the USDA National Award for Excellence in College and University Teaching in the Food and Agricultural Sciences, the Entomological Society of America Distinguished Achievement Award, Gamma Sigma Delta Teaching Award, and the University of Nebraska Outstanding Teaching and Instructional Creativity Award (OTICA).



Dr. David Harwood is a Professor and TM and EE Stout Chair of Stratigraphy in the Department of Earth and Atmospheric Sciences (EAS) at the University of Nebraska-Lincoln, and

has been in service there since 1989. He graduated with a Ph.D. in Geology and Mineralogy in 1986 from The Ohio State University, a M.S. in Geology in 1982 from Florida State University, and a B.S. in Geology in 1980 from the University of Akron. Harwood's main research interests involve reconstructing the paleoenvironmental and paleoclimatic history of Antarctica and the Southern Ocean through paleontological and stratigraphic studies of sedimentary rock sequences and drill cores.

David's specific expertise is as a micropaleontologist and stratigrapher, studying Cretaceous and Cenozoic diatom microfossils and applying them in biostratigraphy and paleoecology. He has been to Antarctica and the Southern Ocean 18 times, leading small tent-based remote field teams, as well as large international drilling projects like the Antarctic Geological Drilling Program (ANDRILL), of which he was the U.S. Principal Investigator. He now manages the Hot Water Drilling Program at UNL, which drilled more than 1000 meters below the West Antarctic Ice Sheet in 2018 to provide access into Mercer Subglacial Lake. Dr. Harwood teaches a general education course entitled 'Frontiers in Antarctic Geosciences', as well as courses in 'Micropaleontology' and 'Siliceous Phytoplankton Paleontology'.

Since 2004, Harwood has led an impactful summer professional development experience for science teachers in conjunction with NMSSI, a 16-day inquiry-based geoscience field course across WY, NE, SD, where teachers discover the history of the Rocky Mountains and sharpen their classroom skills. Harwood has been the recipient of numerous awards in recognition of his commitment to science and education in Nebraska including: Catalyst Award from the Nebraska Association of Teachers of Science (2015); Distinguished Teaching Award, College of Arts & Sciences (CAS), UNL (2019); Lawson Award Dept. EAS, UNL (2015) and Coffman Excellence in Geology Award from EAS, UNL, was recognized as a NSF Presidential Young Investigator (1991-1996), and is presently a Dean's Fellow of the College of Arts & Sciences Teaching Academy, UNL.

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 4, 2019 in Lincoln. The project is one of the 117 projects receiving \$19,501,444 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 \$305 million in grants to over 2,200 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/>

Six second quarter 2020 PIE grant applications were received and processed in April. Applicants include the NE Section SRM – 2020 NE Section-Society for Range Management Meeting/Tour; Keep Omaha Beautiful – World O! Water; NE Recycling Council – Building Resilience Strengthening Recycling Systems 2020 Fall Conference; Audubon's Rowe Sanctuary – Online Conservation Education Project; City of Wilber Pathways to Progress – Wilber Community Lake Restoration Project; and Community Crops – "Grow Lincoln" Video Series. Recipients will be selected in June.

Third quarter 2020 applications are due July 6, 2020.

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.
NAS President: Sally Harms
NATS President: Anya Covarrubias
NJAS President: Randall Lienemann
NAS Executive Secretary: Michelle Lopez
Nebr. Sci. News Editor: Michelle Lopez
Membership information can be obtained by writing to P.O. Box 880339, Lincoln, NE 68588-0339
E-mail: nebacad@unl.edu Telephone: (402) 472-2644
Website: www.neacadsci.org Donations are tax deductible.