

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

The 129th annual meeting of the Nebraska Academy of Sciences was held at the Nebraska Wesleyan University on April 12. This year, the meeting featured presentations of research by professionals, graduate students and undergraduate students from across Nebraska. We also hosted a workshop regarding teaching and learning the dynamics of cellular respiration using interactive computer simulations, and we had one of hopefully many more to come member round-table discussions to do some brainstorming about the NAS network and the great potential we have to become an academy that is even more vibrant and better than the sum of our parts.

Each year, the Academy recognizes one or two people with high achievements in attaining the historical and current objectives of the Nebraska Academy of Sciences. The Friend of Science Award is the highest recognition bestowed by the Academy. This year the Friend of Science Awards were presented to Julie Thomas-UNL and Kevin Lee-UNL. Congratulations to both – well deserved! Details of their careers can be found on page 3.

One of the objectives of the Nebraska Academy of Sciences is to encourage and recognize young budding scientists. Two collegiate scholarships for \$1500 were presented to Andrew Pham-UNO and Dylan George-Peru State College. Andrew plans to earn a doctorate in biochemistry and molecular biology. With this, he aspires to work in research and development for an industrial company. Dylan plans to pursue a PhD in tropical infectious diseases. He plans to become a professor and work at an institution where he can teach and conduct research.

Four high school scholarships were awarded this year. Rylee Schurman-Lincoln North Star High School, received the Loren Eiseley scholarship for \$500. Ryker Van Brocklin-Hastings Senior High School, received the Lincoln Gem and Mineral Scholarship for \$300. The Robert S. Kubicek scholarship for \$500 went to Daniel Stara from Aquinas High School in David City. Thanks to monies donated by C. Bertrand and Marian Othmer Schultz a scholarship for \$750 was awarded to Chad Niemeier-Tri County Public Schools in DeWitt.

Two \$500 awards were presented to Eilidh Chowanec-Creighton University for the outstanding presentation in undergraduate research in Biology; and Gabrielle Brumfield-Chadron State College for outstanding research in Biomedical Sciences. These awards are funded by UNMC. The Nebraska Geological Society awarded three students for best paper in the Earth Science section. Gregory Peterson-Chadron State College, Shamar Chin-UNL, and Hannah Botten-UNL received these awards this year.



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This year’s Maiben Lecture featured David Swanson, Director of Holland Computing Center (HCC) at UNL. His engaging talk summarized the changes in computational science over the last 20 years from the vantage point of a collaborating campus resource provider, and related HCC’s role in some of the most exciting science of our time.



I would like to say a special thanks to the entire Nebraska Academy of Sciences Executive Committee and Michelle Lopez for their dedication and hard work to promote and support science and science education on behalf of our academy. It was my honor and privilege to serve as your President, and I turn over this privilege to our incoming president, Doug Golick from UNL. I am also happy to announce that the 2019-2020 President-Elect is Sally Harms from Wayne State College. Keep up the good work everyone!

Todd Young, NAS President
Wayne State College



NJAS NEWS

The Nebraska Junior Academy of Sciences (NJAS) held the annual State Science and Engineering fair, on April

25th at Nebraska Wesleyan University. Randy Lienemann, President of NJAS indicated a total of 68 projects by 75 students from 33 Nebraska schools qualified for NJAS through six regional fairs held earlier this spring across Nebraska. Students competed in two divisions: Grades 6-8 in the Junior Division & Grades 9-12 in the Senior Division. Judges selected 7 Senior Division students to advance to the American Junior Academy of Sciences Conference next February in Seattle, Washington. While there, students will present their research in a poster session to scientists and peers from across the country, tour area STEM-related academic facilities and attend sessions at the AAAS Annual Conference. The top 7 Senior Projects receiving the “2019 Nebraska NJAS State Science Fair Medallion” were:

- Tristan Weston-Adams Central
- Tyler Slechta-Adams Central
- Gabrielle Krutsinger-Chase County
- Daniel Stara – David City Aquinas
- Anjali Pullabhotla-Millard
- Katie Bathke-Allen Consolidated
- Braydon Dreher-UNMC High School Alliance

**Bathke, Pullabhotla and Stara have previously presented their research at AJAS*

The top 10 Junior Projects receiving the “2019 Nebraska NJAS State Science Fair Medallion” were:

- Jenna Cecrle-Adams Central
- Kolby Denke-Chadron
- Samantha Bonifas-Silver Lake
- Ellie Stein-Ashland Greenwood
- Jackson Graves-Hastings
- Briann Bruns-Pender
- Elaina McHargue-Central City
- Madelynn Hanes-Chase County
- Keoni Anding-McMillan Magnet
- Madison Doming-Seward

Twenty businesses, educational institutions, and military provided additional awards including books, medallions, backpacks, cash prizes and scholarships.

For four decades, NJAS has sponsored the State science and Engineering fair. NJAS is a 501(c)3 non-profit organization that seeks to stimulate science education and to encourage young people to become involved in science. As an affiliate of the Nebraska Academy of Sciences, all student participants receive a one-year membership to the Nebraska Academy of Sciences. For more information about NJAS, visit:

www.nebraskajunioracademyofsciences.org,
@NebJrAcadSci on Twitter.

Randall Lienemann
NJAS President

DATES TO REMEMBER

Click on the date below to learn more

[NATS Fall Conference Call for Proposals Deadline – June 7, 2019](#)
[PIE Grant 3rd Quarter Application Deadline – July 8, 2019](#)
[2019 NATS/NATM Fall Conference – September 19-21, 2019](#)

AAAS IF/THEN AMBASSADORS PROGRAM

AAAS is excited to announce the official launch of the **AAAS IF/THEN Ambassadors** program!

The American Association for the Advancement of Science (AAAS) has [opened the application period](#) for the AAAS IF/THEN Ambassadors program which will bring together 100 women from a variety of science, technology, engineering and mathematics (STEM) careers to serve as high-profile role models for middle school girls. Applications will be accepted from April 1 – July 21, 2019.

Visit the program's [website](#) to learn more!

CANCER BIOLOGY & YOU TEACHER WORKSHOP

The goal of this workshop is to provide teachers with a variety of classroom activities aimed at giving them a broad background in the area of cancer biology and introducing ideas to integrate these concepts into their existing curriculum. Some classroom materials will be provided. This summer's workshop will be partly taught by faculty from Harvard Medical School. [CLICK HERE](#) to learn more and to register for the June 24-26, 2019, workshop!

YNS SUMMER SCIENCE CAMPS

Nebraska EPSCoR sponsors 3 to 5 day residential and commuter camps at colleges and universities in Nebraska for middle school and high school students. Young Nebraska Scientists (YNS) camps introduce campers to today's hottest topics in science and engineering. Campers get hands-on experience in and outside of the lab. [CLICK HERE](#) for detailed program information and application materials. Dates of the camps range from June 5 – July 17, 2019.

LET'S IMPROVE WATER AWARENESS: A WORKSHOP FOR TEACHERS AND EDUCATORS

This program is a great opportunity for teachers to explore aspects of water that are relevant to the Midwest. Water science and water management experts from the water industry, agriculture, universities and government agencies will be presenting the program. This workshop is held May 29-30, 2019. [CLICK HERE](#) to learn more and to register!

2019 FRIEND OF SCIENCE AWARDS



Julie Thomas currently serves as the Interim Dean for Research in the College of Education and Human Sciences at the University of Nebraska-Lincoln. Beginning with her elementary teaching experiences in rural and urban Nebraska classrooms (14 years), Thomas recognized children's science enthusiasm and decided to pursue a doctoral degree in science education. Now, as a university professor (24 years), Thomas enjoys research and teaching related to elementary science education. She has led numerous funded projects and published research focused on children's science learning and teacher professional development. Proud accomplishments include collaborative efforts – such as *No Duck Left Behind*, a partnership with waterfowl biologists to promote wetland education efforts, and *Engineering is Everywhere* (E²), a partnership with a materials engineer to develop a time-efficient model for STEM career education.

Throughout her teaching career, Thomas has been actively involved in national and international professional associations such as the School Science and Mathematics Association (SSMA-Past Executive Director), National Science Teachers' Association (NSTA-Awards and Nominations Committees), the Council for Elementary Children International (CESI-Past President). In Nebraska, Thomas has been a long-time member of the Nebraska Association of Science Teachers (NATS) having served on the board from 1991-92 and continuing as a NATS conference presenter. Thomas continues her science education leadership as the NJAS Director of the Southeast Regional Science Fair.

2019 FRIEND OF SCIENCE AWARDS Cont.



Kevin Lee is a Research Associate Professor at the University of Nebraska-Lincoln (UNL). His appointment is shared by an academic department where his duties focus on instruction and an educational center where he works on curriculum development, outreach, teacher training, and technology support.

He oversees the Astronomy Education at the University of Nebraska web site at <http://astro.unl.edu> which houses computer simulations, a library of dynamic peer instruction questions, a suite of interactive ranking and sorting tasks, and a growing library of astronomy demonstration videos available on YouTube. The simulations have been used globally by astronomy faculty for more than 10 years. This work was largely responsible for Kevin winning the AAPT's Halliday and Resnick Award for Excellence in Undergraduate Physics Teaching in 2012.

Kevin has organized an annual workshop in astronomy education each fall for over 15 years. This workshop has been held jointly with the fall meeting of the Nebraska Chapter of the American Association of Physics Teachers. He recently has returned to UNL after a three-year stint as a rotating program officer in the National Science Foundation's Division of Undergraduate Education.

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/>

Nine second quarter 2019 PIE grant applications were received and processed in April. Applicants include the Nebraska Recycling Council – Annual Awards Luncheon and Workshops; Year of the Community; National Junior Horticulture Association – National Convention; Asian Community and Cultural Center – Signatures on the Land; Upper Loup NRD – Adventure Camp about the Environment; Central Platte NRD – Growing Season Burn Workshop; Wachiska Audubon Society – Prairie Discovery Days 2019; The Groundwater Foundation – GREAT: Groundwater Resource, Education, Awareness Toolkit; Keep Omaha Beautiful – World O! Water Festival; and Sandhills Journey Scenic Byway – Community Pollinator Gardens. Recipients will be selected in June.

Third quarter 2019 applications are due July 8, 2019. Grant forms and information can be found on the website by [CLICKING HERE](#).

2019 SCIENCE OLYMPIAD

Thirty-one middle school Science Olympiad teams and thirty-one high school teams came together on the East Campus of UNL to compete in the 32nd Science Olympiad tournament on Saturday, April 27, on the East Campus of UNL.



Teams from all over the state competed in 23 competition events and 6 trial events in both the high school and the middle school divisions. Student teams earned medals by scoring in the top 6 of an event and earned team points as well. The high school and the middle school who earned the most points overall in the competition events will represent Nebraska at the national tournament at Cornell University in Ithaca, New York on May 31-June 1.

Science Olympiad teams consist of up to 15 students with up to 7 twelfth graders on a high school team and up to 5 ninth graders on a middle school team. Team also bring alternates who compete in the trial events.



Science Olympiad events range from study events such as Circuit Lab, Density Lab, Designer Genes, Water Quality, and Sounds of Music. There are engineering events such as Mousetrap Car, Battery Buggy, Wright Stuff, and Elastic Launch Glider. There are inquiry events such as Experimental Design and Technical Writing (called Write It-Do It).



The tournament had event supervisors from UNL, UNO, Nebraska Wesleyan, UNMC, and Educational Service Units #9, #10, and #16. Additionally the tournament had over 100 volunteers. Nebraska Science Olympiad is sponsored by the state committee, UNL-CASNR, NAS, and the Henry Doorly Zoo and Aquarium.



Congratulations to Lincoln Southwest High School and their coach Greg Cooper for winning the high school division and to Mission Middle School and their coaches Suzanne Nolte and Norma Thompson for winning the middle school division.

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