17 student teams seek to change the world through A.H. Nickless Innovation Award projects

Students from districts in Bay, Midland and Saginaw counties participating in 12th annual STEM competition; in April, three teams will win a share of up to $77,500 in school STEM education grants and student scholarships

UNIVERSITY CENTER, MICH., Jan. 14, 2025 – The 17 teams participating in the 2024-25 A.H. Nickless Innovation Award are hard at work on their respective projects, with project reports due in late March and a day of live project presentations scheduled for Saturday, April 26, at Saginaw Valley State University.

Presented by the Nickless Family Charitable Foundation, the A.H. Nickless Innovation Award is an annual competition for high school students ages 13 to 18 in Bay, Midland, Saginaw and Tuscola counties. Its goal is to inspire passion for STEM subjects and challenge students to work in teams to think innovatively and develop solutions to problems affecting the world. Topics typically include – but are not limited to – issues related to alternative energy, healthcare, science, technology or life sciences.

The 17 team projects from the six participating schools are as follows:

Bullock Creek High School in Midland (Bullock Creek School District), four teams:

- A shoe that doubles as a charger to recharge electronic devices (e.g., cellphones) while walking and can function in any climate
- Mobile lithium battery drainers or heat-resistant suits for first responders to minimize risks of electric car fires
- A geothermal heating system that is a more efficient, faster, more cost-effective alternative to existing options
- A door-opening foot pedal to increase accessibility and reduce transmission of bacteria and viruses by eliminating contact with door handles

Herbert Henry Dow High School in Midland (Midland Public Schools), three teams:

- A low-cost water rescue technology with autonomous capabilities that can more effectively save people's lives
- Sensors to identify live organisms (i.e., rodents) within the walls of buildings/homes
- A low-cost AI-powered online therapist to improve mental healthcare access worldwide

Freeland High School (Freeland Community School District), one team:

- A device that moves cars out of the way of emergency responder vehicles

John Glenn High School in Bay City (Bangor Township Schools), one team:

- An innovative water-insulated roofing system with solar panels to supply energy to houses to reduce climate change

Midland High School (Midland Public Schools), two teams:

- A device that efficiently returns cans with the use of technology and helps solve the global issue of pollution
- An app that uses technology and visual techniques to help users handle physical money

Saginaw Arts and Sciences Academy (Saginaw Public School District), six teams:

- A blood oxygen sensing device for pilots that automatically deploys lifesaving oxygen masks during hypoxia, enhancing aviation safety
- Alternative methods for heartworm treatment and prevention to address how heartworms are an issue in pets and how they affect economics and the health of the animal
- An app with a 3D camera module to assist people who are blind with navigation and literacy through machine learning models and algorithms
- An efficient system to monitor sets, reps and time allotted during rest, benefiting both physical therapists and patients
- A solution to increase boat fuel efficiency and improve travel based on physical and computer simulation
- Mobility aids that address the disruption of students' education and social development caused by existing options

During Phase One of the competition in September and October, each team identified a problem and submitted a two-page abstract proposing a project to address it. Each team that advanced to Phase Two received a $1,000 grant with which to conduct its research and develop a viable solution.

Now, teams must submit their Phase Two project reports by 4 p.m. EDT on March 31 and then will deliver 10-minute presentations on their projects before a panel of judges during a daylong public event on April 26 in Alan W. Ott Auditorium in SVSU's Gilbertson Hall. Admission is free and open to the public. The exact start time for the event will be announced closer to April 26; watch the Newsroom page at ahninnovationaward.com for details.

At the conclusion of the April 26 event, up to $42,500 in scholarships for students on the winning teams and an additional $35,000 in STEM education grants for the winning teams' schools will be awarded:

- **First place** will receive up to five **$5,000 scholarships** for student team members and a **$20,000 grant** for the school.
- **Second place** will receive up to five **$2,500 scholarships** for student team members and a **$10,000 grant** for the school.
- **Third place** will receive up to five **$1,000 scholarships** for student team members and a **$5,000 grant** for the school.

Fostering student innovation for more than a decade

The 2024-25 competition marks the 12th year of the A.H. Nickless Innovation Award. Since the first competition in 2013-14, $701,000 has been awarded to participants and their schools, including $351,000 in student scholarships and $350,000 in STEM education grants. In all, more than 500 students developed and presented a total of more than 170 team projects in Phase Two of the competition during the competition's first 11 years.

About the A.H. Nickless Innovation Award

The A.H. Nickless Innovation Award was created by the Nickless Family Charitable Foundation to honor the memory of the late Arthur H. Nickless, a local innovator and owner of Wolverine Telephone Company. With a goal of inspiring passion for science, technology, engineering and math (STEM), the competition is open to high school students in Bay, Midland, Saginaw and Tuscola counties and awards up to $77,500 per year in scholarships to students and STEM grants to schools. A total of more than $700,000 has been awarded since the first competition in 2013-14. For more information, visit ahninnovationaward.com.