

2024 FINAL AWARDS

Senior Division Sweepstakes Winners

The first place (Marcus J. Friskop Sweepstakes) winner received a plaque, a \$200 cash award from the Marcus J. Friskop Family, a \$700 cash award from the University of North Dakota College of Engineering & Mines, and a 1 Year \$3000 Scholarship to the University of North Dakota and will advance to the ISEF in Columbus Ohio and will exhibit his/her project.

The second place (sweepstakes runner-up) winner received a plaque, a \$350 cash award from the University of North Division School of Aerospace Sciences, and a 1 Year \$2500 Scholarship to the University of North Dakota and will advance to the ISEF in Columbus Ohio and will exhibit his/her project.

The third place (sweepstakes 2nd runner-up) winner received a plaque, a \$250 cash award from the University of North Dakota College of Nursing & Professional Disciplines, and a 1 Year \$1500 Scholarship to the University of North Dakota and will advance to the ISEF in Columbus Ohio and will exhibit his/her project.

Senior Division – 1st Place – Sweepstakes Winner

Radheeka Weeraratne, Dickinson School District, "Renewable Energy Storage Innovation of Air Batteries Using Steel Anodes"

Senior Division – 2nd Place – Sweepstakes Runner-Up

James Gessey, Flasher School District, "The Effect of Psychoactive Substances on the Growth and Treatment of K562 Cell Lines"

Senior Division – 3rd Place – Sweepstakes Second Runner-Up

Evelyn Chambers, Woodhaven Academy, "Acquiring and Decoding Neural Signals for Sensory Applications"

North Dakota State Science and Engineering Fair

Senior Division Place Winners

Projects that are selected as finalists received a gold plaque and will advance to the ISEF in Columbus Ohio in May and will exhibit their project.

Projects selected as alternates received a silver plaque and are alternates to the ISEF in Columbus Ohio in May but will not exhibit their project unless a finalist from that region cannot attend.

Northwest Region

1st Finalist: Creszah Lorraine Mahinay, New Town School District, "Re-growing Lettuce in Different Water Types"

2nd Finalist: Katherine Haakenson, Tioga School District, "Concentration Effectiveness"

1st Alternate: Grace Fedler, Tioga School District, "Brain drain or boost in efficiency"

2nd Alternate: Jenilynn Hanson, Tioga School District, "Mental Health in the Agricultural Industry" 3rd Alternate: Crystal Borja, Tioga School District, "The Stroop Effect"

Northeast Region

1st Finalist: Amaa Wijetunga, Red River High School, "Hydrotectives"

1st Alternate: Jysmen Gritz, Valley-Edinburg School District, "Do over the counter acne products inhibit bacterial growth?"

2nd Alternate: Sonakshi Singhal, Red River High School, "On the Fundamental Understanding of Arsenic- Minerals Chemistry for Successful Environmental Mitigation"

3rd Alternate: Katelyn Hur, Red River High School, "Profiling COVID-19 Vaccine Adverse Events Using Case Reports"

North Dakota State Science and Engineering Fair

Southwest Central Region

1st Finalist: Madalyn Bohl, Flasher School District, "Enhancing Nutrient Uptake in Wheat: Evaluating the Effects of Mycorrhizal Fungi Inoculation"

2nd Finalist: Grant Hauge, Tyler Rossow, Flasher School District, "Smart Soil Monitoring"

1st Alternate: Ava Hauck, Dickinson School District, "Convolutional Neural Networks in Hematological Analyses"

2nd Alternate: Taelyn Boldt, Flasher School District, "Smart Irrigation"

3rd Alternate: Cassy Hartman, Flasher School District, "Impact of Bacillus subtilis on Nutrient Bioavailability and Plant Growth in Aquaponic Systems"

Southeast Region

1st Finalist: Justin Jiang, Fargo School District, "Effects of the Structure of 3D Printed Scaffolds on Cell Growth"

2nd Finalist: Denver Nelson, Hankinson School District, "How the Impact of a Constant Force Affects Metals at Different Temperatures"

3rd Finalist: Noah Welch, Hankinson School District, "A Viewpoint into People's Perception of the World of Diabetes and Examining their Results Through In-Depth Analysis"

1st Alternate: Brooke Homola, Gackle-Streeter School District, "The Effect of Common Liquids on Lemn Minor in the Event of Accidental Contamination in Bodies of Water"

2nd Alternate: Aubrey Isakson, Kidder County School District, "Determining the Acute Toxicity Effects of Various Fuel Grades on Aquatic Ecosystems by Bioassay"

3rd Alternate: Olivia Koehler, Hankinson School District, "A Comprehensive Analysis of the Effect of Nutrient Level on Plant Growth"

North Dakota State Science and Engineering Fair

Junior Division Sweepstakes Winners

The first place (Sweepstakes) winner received a gold state plaque and a \$200 cash award from the ND IDeA Network of Biomedical Research Excellence.

The second place (Sweepstakes Runner-Up) winner received a silver plaque and a \$150 cash award from the ND IDeA Network of Biomedical Research Excellence.

Junior Division – 1st Place – Sweepstakes Winner

Che Yu, South Middle School, “Machine Learning for Soil Moisture Prediction”

Junior Division – 2nd Place – Sweepstakes Runner-Up

Sawyer Paulson, Hankinson School District, “Are Suppressors Superior”

Junior Division Place Winners

All first and second place winners received a gold plaque. All third, fourth, and fifth place winners received a silver plaque.

Northwest Region

1st Place: Autumn Dusenberry, Mataya Foote, Victoria Hale, New Town School District, “Sacred Hands”

2nd Place: Ava Brugh, Kinsey Lahtinen, Danika LeBeau, New Town School District, “Purity vs. Pollution”

3rd Place: Marlene Perez, Williston MS, “Is Hydroelectric Power Better for the Environment?”

4th Place: Harper Ferguson, Tioga School District, “Grazing Management Effects on Plant Diversity” 5th Place: Jerol Gohrick, Tioga School District, “Potato Battery”

North Dakota State Science and Engineering Fair

Northeast Region

1st Place: Surya Srivastava, Schroeder Middle School, "Interstellar Inch"

2nd Place: Amelia Dodds, Schroeder Middle School, "Making Waves"

3rd Place: Helen Bernstrom, Schroeder Middle School, "H2MATO"

4th Place: Nora Peterson, Schroeder Middle School, "I Got Worms"

5th Place: Declan Sailer, Schroeder Middle School, "Playground Pathogens"

Southwest Central Region

1st Place: Kinley Isbell, Flasher School District, "Quantitative Analysis of Oxytetracycline Potency Degradation Over Time Using Spectrophotometer"

2nd Place: Rebekka Bohl, Flasher School District, "Which Child-Resistant Bottle is the Most Effective?"

3rd Place: Jory Bonogofsky, Brinley Meyer, Flasher School District, "Perking Up or Pumping Hard? The Relationship Between Caffeine and Heart Rate"

4th Place: Eli Hatlestad, Shiloh Christian School District, "Food Desert Relief"

5th Place: Kinley Jahner, Linton School District, "Do Screens Steal Your Sleep?"

Southeast Region

1st Place: Nolan Sutherland, Lisbon School District, "A Study on Locational Difference's Effect on the Dialect of Students"

2nd Place: Fourie DuPreez, Gackle-Streeter School District, "How Your Everyday Drinks Affect Your Teeth"

3rd Place: Carter Remmick, Kidder County School District, "Feeding the Fields"

4th Place: Gavin Sayler, Kidder County School District, "Farmyard Fertilizers"

North Dakota State Science and Engineering Fair

5th Place: Ella Lian, Montpelier School District, "Let it Shine: The Impact of Light Distance in Hydroponics"

Agriculture/Soil Science

Farmers Union Insurance - North Dakota

Project Related to Agriculture

2 Winners: Senior Division: Monetary Award of \$50 And a Certificate

Sonakshi Singhal, Red River High School, "On the Fundamental Understanding of Arsenic- Minerals Chemistry for Successful Environmental Mitigation"

Ingred Myrdal, Scarlett Dreger, Valley-Edinburg School District, "Creating Compost from School Food and Paper Waste."

Farmers Union Insurance - North Dakota

Project Related to Agriculture

2 Winners: Junior Division: Monetary Award of \$50 And a Certificate

Helen Bernstrom, Schroeder Middle School, "H2MATO"

Keegan Berg, Joe Langerud, Valley /Edinburg School District, "Banana Breakdown "

North Dakota Farm Bureau

Project Related to Agriculture

2 Winners: Senior Division: Monetary Award of \$50 And a Certificate

Cassy Hartman, Flasher School District, "Impact of Bacillus subtilis on Nutrient Bioavailability and Plant Growth in Aquaponic Systems"

North Dakota State Science and Engineering Fair

Madalyn Bohl, Flasher School District, "Enhancing Nutrient Uptake in Wheat: Evaluating the Effects of Mycorrhizal Fungi Inoculation"

North Dakota Farm Bureau

Project Related to Agriculture

2 Winners: Junior Division: Monetary Award of \$50 And a Certificate

Kinley Isbell, Flasher School District, "Quantitative Analysis of Oxytetracycline Potency Degradation Over Time Using Spectrophotometer"

Tony Vetter, Lisbon School District, "Plant Watering: All at Once vs. Gradually"

Chemistry/Biochemistry

Department of Chemistry

Project in Chemistry

1 Winner: Junior Division: Monetary award of \$75 and a certificate

Kinley Isbell, Flasher School District, "Quantitative Analysis of Oxytetracycline Potency Degradation Over Time Using Spectrophotometer"

Department of Chemistry

Project in Chemistry

1 Winner: Senior Division: Monetary award of \$125 and a certificate

Radheeka Weeraratne, Dickinson School District, "Renewable Energy Storage Innovation of Air Batteries Using Steel Anodes"

American Chemical Society-Red River Valley Section

North Dakota State Science and Engineering Fair

Project in Field of Chemistry

1 Winner: Junior Division: \$100 Barnes and Noble Gift Card, A Periodic Table Scroll Pen, And a Certificate

Berkeley Bohnenstingl, Cohen Nelson, Hankinson School District, "Rusty Revolution"

American Chemical Society-Red River Valley Section

Project in Field of Chemistry

1 Winner: Senior Division: \$100 Barnes and Noble Gift Card, A Periodic Table Scroll Pen, And a Certificate

Amaa Wijetunga, Red River High School, "Hydrotectives"

Bartlett & West, Inc.

Project in Biochemistry

2 Winners: Junior Division: Monetary Award of \$50 And a Certificate

Jeremiah Gessey, Flasher School District, "Exploring the Impact of Essential Oils on Planarian Mobility, Sensitivity and Learning Abilities"

Jory Bonogofsky, Brinley Meyer, Flasher School District, "Perking Up or Pumping Hard? The Relationship Between Caffeine and Heart Rate"

Bartlett & West, Inc.

Project in Biochemistry

2 Winners: Senior Division: Monetary Award of \$50 And a Certificate

Avery Stevens, Flasher School District, "Impact of High Fiber vs. Low-Fiber Diets on Gut Microbiota"

North Dakota State Science and Engineering Fair

James Gessey, Flasher School District, "The Effect of Psychoactive Substances on the Growth and Treatment of K562 Cell Lines"

Earth/Atmospheric Sciences

Department of Atmospheric Sciences

Project in Atmospheric Sciences

1 Winner: Junior or Senior Division: Monetary award of \$125 and a certificate

Che Yu, South Middle School, "Machine Learning for Soil Moisture Prediction"

Department of Geography

Project in Geography

1 Winner: Junior Division: Monetary award of \$125 and a certificate

Jocelyn Zingg, Flasher School District, "Nutrient Interactions: Assessing the Impact of Nitrogen and Phosphorus on Sorghum Development"

Department of Geography

Project in Geography

1 Winner: Senior Division: Monetary award of \$125 and a certificate

Madalyn Bohl, Flasher School District, "Enhancing Nutrient Uptake in Wheat: Evaluating the Effects of Mycorrhizal Fungi Inoculation"

North Dakota State Science and Engineering Fair

Harold Hamm School of Geology & Geological Engineering

Project in Geology/ Geological Engineering

1 Winner: Junior Division: Monetary award of \$125 and a certificate

Surya Srivastava, Schroeder Middle School, "Interstellar Inch"

Harold Hamm School of Geology & Geological Engineering

Project in Geology/ Geological Engineering

1 Winner: Senior Division: Monetary award of \$125 and a certificate

Grant Hauge, Tyler Rossow, Flasher School District, "Smart Soil Monitoring"

North Dakota Geological Society

Project in Field of Geology or Earth Science

1 Winner: Junior Division: Monetary Award of \$50 And a Certificate

Che Yu, South Middle School, "Machine Learning for Soil Moisture Prediction"

North Dakota Geological Society

Project in Field of Geology or Earth Science

1 Winner: Senior Division: Monetary Award of \$50 And a Certificate

Sonakshi Singhal, Red River High School, "On the Fundamental Understanding of Arsenic- Minerals Chemistry for Successful Environmental Mitigation"

North Dakota State Science and Engineering Fair

National Weather Service

Project Related to Meteorology

1 Winner: Junior Division: Certificate

Che Yu, South Middle School, "Machine Learning for Soil Moisture Prediction"

National Weather Service

Project Related to Meteorology

1 Winner: Senior Division: Certificate

Cale Benson, Hankinson School District, "Plants Fighting Garbage Air"

Association For Women Geoscientists

Project Related to Geosciences

1 Winner (Must Be A Female Exhibitor): Junior or Senior Division: Certificate

Jocelyn Zingg, Flasher School District, "Nutrient Interactions: Assessing the Impact of Nitrogen and Phosphorus on Sorghum Development"

National Oceanic & Atmospheric Administration

Project Related to Improved Understanding of the Earth's Processes

1 Winner: Junior Division: Certificate and a Medallion

Che Yu, South Middle School, "Machine Learning for Soil Moisture Prediction"

North Dakota State Science and Engineering Fair

NASA Earth System Science Award

Project Related to Earth's Interconnected Systems

1 Winner: Junior or Senior Division: Certificate

Cassy Hartman, Flasher School District, "Impact of Bacillus subtilis on Nutrient Bioavailability and Plant Growth in Aquaponic Systems"

Energy/Power/Electricity

Otter Tail Power Company

Project Related to Energy or Electricity

3 Winners: Senior Division: Monetary Award of \$50 And a Certificate

Evelyn Chambers, Woodhaven Academy, "Acquiring and Decoding Neural Signals for Sensory Applications"

Radheeka Weeraratne, Dickinson School District, "Renewable Energy Storage Innovation of Air Batteries Using Steel Anodes"

George Tannious, Laurentiu Punga, Legacy School District, "TerraCleaner"

Otter Tail Power Company

Project Related to Energy or Electricity

3 Winners: Junior Division: Monetary Award of \$50 And a Certificate

Tony Vetter, Lisbon School District, "Plant Watering: All at Once vs. Gradually"

Aurora Bratvold, Cedar Fitzsimmons, New Town School District, "Solar Oasis: Filtering Water with the Power of the Sun "

Ryker Stroehl, Christian Kackman, Lidgerwood School District, "Avoiding Disaster"

North Dakota State Science and Engineering Fair

Xcel Energy

Project Related to Energy or Electricity

3 Winners: Junior Division: Monetary Award of \$50 And a Certificate

Jerol Gohrick, Tioga School District, "Potato Battery"

Marlene Perez, Williston MS, "Is Hydroelectric Power Better for the Environment?"

Noah Hetzel, Flasher School District, "Captivation Station"

Xcel Energy

Project Related to Energy or Electricity

3 Winners: Senior Division: Monetary Award of \$50 And a Certificate

George Tannious, Laurentiu Punga, Legacy School District, "TerraCleaner"

Radheeka Weeraratne, Dickinson School District, "Renewable Energy Storage Innovation of Air Batteries Using Steel Anodes"

Evelyn Chambers, Woodhaven Academy, "Acquiring and Decoding Neural Signals for Sensory Applications"

Chord Energy

Project Related to Energy

1 Winner: Junior Division: Monetary Award of \$500, A Water Bottle, A Back Pack And a Certificate

Tony Vetter, Lisbon School District, "Plant Watering: All at Once vs. Gradually"

North Dakota State Science and Engineering Fair

Chord Energy

Project Related to Energy

1 Winner: Senior Division: Monetary Award of \$500, A Water Bottle, A Back Pack And a Certificate Radheeka Weeraratne, Dickinson School District, "Renewable Energy Storage Innovation of Air Batteries Using Steel Anodes"

Engineering (Civil)

Department of Civil Engineering

Project in Civil Engineering

1 Winner: Junior Division: Monetary award of \$50 and a certificate
Caleb Kennedy, Kidder County School District, "How much will it hold?"

Department of Civil Engineering

Project in Civil Engineering

1 Winner: Senior Division: Monetary award of \$50 and a certificate
Jeremiah Walsh, Tioga School District, "Shaking Things Up Pt 2"

Engineering (Mechanical)

Department of Mechanical Engineering

Project in Mechanical Engineering

1 Winner: Junior Division: Monetary award of \$75 and a certificate
Eli Hatlestad, Shiloh Christian School District, "Food Desert Relief"

North Dakota State Science and Engineering Fair

Department of Mechanical Engineering

Project in Mechanical Engineering

1 Winner: Senior Division: Monetary award of \$75 and a certificate

Denver Nelson, Hankinson School District, "How the Impact of a Constant Force Affects Metals at Different Temperatures"

Engineering (Chemical)

Department of Chemical Engineering

Project in Chemical Engineering

1 Winner: Junior Division: Monetary award of \$75 and a certificate

Rusty Schafer, Flasher School District, "From Murky to Clear: The Journey of Water Purification"

Department of Chemical Engineering

Project in Chemical Engineering

1 Winner: Senior Division: Monetary award of \$75 and a certificate

Jhosthine Tavera, New Town School District, ""Water Filters Saves Lives; Water Filtration Importance""

Engineering (Electrical)

Dr. Richard Schultz Award - Department of Electrical Engineering

Project in Electrical Engineering

1 Winner: Junior Division: Monetary award of \$125 and a certificate

North Dakota State Science and Engineering Fair

Tony Vetter, Lisbon School District, "Plant Watering: All at Once vs. Gradually"

Dr. Richard Schultz Award - Department of Electrical Engineering

Project in Electrical Engineering

1 Winner: Senior Division: Monetary award of \$125 and a certificate

Ava Hauck, Dickinson School District, "Convolutional Neural Networks in Hematological Analyses"

Engineering (Biomedical)

Biomedical Engineering Program

Project in Biomedical Engineering

1 Winner: Junior Division: Monetary award of \$100 and a certificate

Aurora Bratvold, Cedar Fitzsimmons, New Town School District, "Solar Oasis: Filtering Water with the Power of the Sun "

Biomedical Engineering Program

Project in Biomedical Engineering

1 Winner: Senior Division: Monetary award of \$150 and a certificate

Justin Jiang, Fargo Davies School District, "Effects of the Structure of 3D Printed Scaffolds on Cell Growth"

North Dakota State Science and Engineering Fair

Engineering (Petroleum)

Department of Energy & Petroleum Engineering

Project in Energy/Petroleum Engineering

1 Winner: Senior Division: Monetary award of \$75 and a certificate

Radheeka Weeraratne, Dickinson School District, "Renewable Energy Storage Innovation of Air Batteries Using Steel Anodes"

Engineering

College of Engineering and Mines

Project in Engineering

1 Winner: Junior Division: Monetary award of \$75 and a certificate

Che Yu, South Middle School, "Machine Learning for Soil Moisture Prediction"

College of Engineering and Mines

Project in Engineering

1 Winner: Senior Division: Monetary award of \$125 and a certificate

Denver Nelson, Hankinson School District, "How the Impact of a Constant Force Affects Metals at Different Temperatures"

North Dakota State Science and Engineering Fair

College of Engineering and Mines

Project in Engineering (Female Winner)

1 Winner: Senior Division: Monetary award of \$125, a \$500 Engineering Scholarship, and a certificate

Evelyn Chambers, Woodhaven Academy, "Acquiring and Decoding Neural Signals for Sensory Applications"

Society of Automotive Engineers

Project in Mobility Engineering

1 Winner: Junior Division: Monetary Award of \$100 And a Certificate

Waylon Seelye, Tioga School District, "What is the Best Design for a Rocket?"

Society of Automotive Engineers

Project in Mobility Engineering

1 Winner: Senior Division: Monetary Award of \$100 And a Certificate

George Tannious, Laurentiu Punga, Legacy School District, "TerraCleaner"

NPS Metals a Division of Owen Industries

Project Related to Manufacturing

1 Winner: Junior Division: Monetary Award of \$200 And a Certificate

Eli Hatlestad, Shiloh Christian School District, "Food Desert Relief"

NPS Metals a Division of Owen Industries

Project Related to Manufacturing

1 Winner: Senior Division: Monetary Award of \$300 And a Certificate

North Dakota State Science and Engineering Fair

Denver Nelson, Hankinson School District, "How the Impact of a Constant Force Affects Metals at Different Temperatures"

Environmental Sciences

College of Engineering and Mines

Project in Energy/Environmental Science

1 Winner: Senior Division: Monetary award of \$125 and a certificate

Amaa Wijetunga, Red River High School, "Hydrotectives"

Ricoh Corporation

Project Related to Environmentally Friendly Businesses

1 Winner: Senior Division: Certificate

Radheeka Weeraratne, Dickinson School District, "Renewable Energy Storage Innovation of Air Batteries Using Steel Anodes"

ConocoPhillips

Project Related to Environmental Remediation

2 Winners: Junior Division: Monetary Award of \$50 And a Certificate

Brooke Oster, Kidder County School District, "Lets Get Growing "

Alexis Azenkang, Schroeder Middle School, "Dirty Diseases"

ConocoPhillips

Project Related to Environmental Remediation

2 Winners: Senior Division: Monetary Award of \$50 And a Certificate

North Dakota State Science and Engineering Fair

Jhosthine Tavera, New Town School District, ""Water Filters Saves Lives; Water Filtration Importance""

Brenna Eckroth, Carrie LaDuke, Flasher School District, "The Effect of Water Filtration on Bacterial Growth"

Human Nutrition/Food Science

Hot Cakes Café & Lodging

Project That Has Emphasis on Food Quality or Food Safety

1 Winner: Junior Division: Monetary Award of \$25, And a Certificate

Sudarshan Gautham, Schroeder Middle School, "Five Second Rule"

Hot Cakes Café & Lodging

Project That Has Emphasis on Food Quality or Food Safety

1 Winner: Senior Division: Monetary Award of \$25, And a Certificate

Layla Krinke, Scranton School District, "Comparing Bacterial Growth in Ground Beef Thawed Using Different Methods"

North Dakota Academy of Nutrition and Dietetics

Project Related to Human Nutrition or Food Science

2 Winners: Junior Division: Monetary Award of \$50 And a Certificate

Jory Bonogofsky, Brinley Meyer, Flasher School District, "Perking Up or Pumping Hard? The Relationship Between Caffeine and Heart Rate"

Ella Lian, Montpelier School District, "Let it Shine: The Impact of Light Distance in Hydroponics"

North Dakota State Science and Engineering Fair

North Dakota Academy of Nutrition and Dietetics

Project Related to Human Nutrition or Food Science

2 Winners: Senior Division: Monetary Award of \$50 And a Certificate

Layla Krinke, Scranton School District, "Comparing Bacterial Growth in Ground Beef Thawed Using Different Methods"

Avery Stevens, Flasher School District, "Impact of High Fiber vs. Low-Fiber Diets on Gut Microbiota"

ISEF Alumni

ISEF Alumni

Project as Determined by ISEF Judges

1 Winner: Junior or Senior Division: Monetary Award of \$200 And a Certificate

Radheeka Weeraratne, Dickinson School District, "Renewable Energy Storage Innovation of Air Batteries Using Steel Anodes"

ISEF Alumni

Project as Determined by ISEF Judges

1 Winner: Junior or Senior Division: Monetary Award of \$100 And a Certificate

Creszah Lorraine Mahinay, New Town School District, "Re-growing Lettuce in Different Water Types"

North Dakota State Science and Engineering Fair

Life Sciences (animal & plant)

Department of Biomedical Sciences

Project in Area of Life Sciences (Molecular Biology Emphasis)

2 Winners: Junior Division: Monetary award of \$75 each and a certificate

Jeremiah Gessey, Flasher School District, "Exploring the Impact of Essential Oils on Planarian Mobility, Sensitivity and Learning Abilities"

Carlee Weinberger, Flasher School District, "Herbs vs. Antibiotics"

Department of Biomedical Sciences

Project in Area of Life Sciences (Molecular Biology Emphasis)

2 Winners: Senior Division: Monetary award of \$75 each and a certificate

Ghienaliyah Ayuyu, Dickinson School District, "Dehydration Stress in Nephrolith Production"

James Gessey, Flasher School District, "The Effect of Psychoactive Substances on the Growth and Treatment of K562 Cell Lines"

Department of Biology

Project in Biology

1 Winner: Junior Division: Monetary award of \$75 and a certificate

Jeremiah Gessey, Flasher School District, "Exploring the Impact of Essential Oils on Planarian Mobility, Sensitivity and Learning Abilities"

North Dakota State Science and Engineering Fair

Department of Biology

Project in Biology

1 Winner: Senior Division: Monetary award of \$125, a \$500 Biology scholarship and a certificate

Justin Jiang, Fargo Davies School District, "Effects of the Structure of 3D Printed Scaffolds on Cell Growth"

North Dakota Veterinary Medical Association

Project Related to Veterinary Medicine

1 Winner: Senior Division: Monetary Award of \$300 And a Certificate

McKenzie Meyer, Flasher School District, "Simulating Digestive Efficiency in Cattle Feeds"

North Dakota Veterinary Medical Association

Project Related to Veterinary Medicine

1 Winner: Senior Division: Monetary Award of \$225 And a Certificate

Elizabeth Fedje, Brooke Gullickson, Valley-Edinburg School District, "Cold Snap: Testing the Survival Limits of Bean Beetles in the Cold."

North Dakota Veterinary Medical Association

Project Related to Veterinary Medicine

1 Winner: Junior Division: Monetary Award of \$75 And a Certificate

Harper Ferguson, Tioga School District, "Grazing Management Effects on Plant Diversity "

North Dakota State Science and Engineering Fair

Auxiliary to the North Dakota Veterinary Medical Association

Project Related to Veterinary Medicine

1 Winner: Junior Division: Monetary Award of \$50 And a Certificate

Lily Oster, Lisbon School District, "Comparison Study of Oral Bacteria in Humans and Canines"

Society for In Vitro Biology

Project in the Area of Tissue Culture

1 Winner: 11th Grader Division: Certificate

Justin Jiang, Fargo Davies School District, "Effects of the Structure of 3D Printed Scaffolds on Cell Growth"

Baker Energy Services

Project in Botany

2 Winners: Junior Division: Monetary Award of \$50 And a Certificate

Eli Hatlestad, Shiloh Christian School District, "Food Desert Relief"

Ella Lian, Montpelier School District, "Let it Shine: The Impact of Light Distance in Hydroponics"

Baker Energy Services

Project in Botany

2 Winners: Senior Division: Monetary Award of \$50 And a Certificate

Creszah Lorraine Mahinay, New Town School District, "Re-growing Lettuce in Different Water Types"

North Dakota State Science and Engineering Fair

Skylar Johnson, Enderlin Area School District, "How to Grow Hydroponics using water instead of Soil"

The Hinsz and Weigum Families

Project for Research on Plants

1 Winner: Junior Division: Monetary Award of \$100 And a Certificate

Harper Ferguson, Tioga School District, "Grazing Management Effects on Plant Diversity "

The Hinsz and Weigum Families

Project for Research on Plants

1 Winner: Junior Division: Monetary Award of \$50 And a Certificate

Eli Hatlestad, Shiloh Christian School District, "Food Desert Relief"

The Hinsz and Weigum Families

Project for Research on Plants

1 Winner: Senior Division: Monetary Award of \$125 And a Certificate

Creszah Lorraine Mahinay, New Town School District, "Re-growing Lettuce in Different Water Types"

The Hinsz and Weigum Families

Project for Research on Plants

1 Winner: Senior Division: Monetary Award of \$50 And a Certificate

Carter Oberg, Theodore Otto, Valley-Edinburg School District, "The effect of smoke exposure on plant photosynthesis."

North Dakota State Science and Engineering Fair

The Hinsz and Weigum Families

Project for Research on Ecology

1 Winner: Junior Division: Monetary Award of \$100 And a Certificate

Gavin Sayler, Kidder County School District, "Farmyard Fertilizers"

The Hinsz and Weigum Families

Project for Research on Ecology

1 Winner: Junior Division: Monetary Award of \$50 And a Certificate

Harper Ferguson, Tioga School District, "Grazing Management Effects on Plant Diversity "

The Hinsz and Weigum Families

Project for Research on Ecology

1 Winner: Senior Division: Monetary Award of \$125 And a Certificate

Acalia Olson, Scranton School District, "Pharmaceuticals Effect on the Growth and Development of a Bean Plant"

The Hinsz and Weigum Families

Project for Research on Ecology

1 Winner: Senior Division: Monetary Award of \$50 And a Certificate

Aubrey Isakson, Kidder County School District, "Determining the Acute Toxicity Effects of Various Fuel Grades on Aquatic Ecosystems by Bioassay"

North Dakota State Science and Engineering Fair

Mathematics/Computer Science

Department of Mathematics

Project in Mathematics

1 Winner: Junior Division: Monetary award of \$75 and a certificate

Sawyer Paulson, Hankinson School District, "Are Suppressors Superior"

Department of Mathematics

Project in Mathematics

1 Winner: Senior Division: Monetary award of \$125 and a \$500 Mathematics scholarship, and a certificate

Katelyn Hur, Red River High School, "Profiling COVID-19 Vaccine Adverse Events Using Case Reports"

School of Electrical Engineering & Computer Science

Project in Computer Science

1 Winner: Junior Division: Monetary award of \$100 and a certificate

Che Yu, South Middle School, "Machine Learning for Soil Moisture Prediction"

School of Electrical Engineering & Computer Science

Project in Computer Science

1 Winner: Senior Division: Monetary award of \$100 and a certificate

George Tannious, Laurentiu Punga, Legacy School District, "TerraCleaner"

North Dakota State Science and Engineering Fair

The Title Team

Project Related to Computer Science (Emphasis in Artificial Intelligence)

1 Winner: Junior Division: Monetary Award of \$125 And a Certificate

Delaney Bravender, Flasher School District, "AI Versus Real"

The Title Team

Project Related to Computer Science (Emphasis in Artificial Intelligence)

1 Winner: Senior Division: Monetary Award of \$125 And a Certificate

Ava Hauck, Dickinson School District, "Convolutional Neural Networks in Hematological Analyses"

Medicine/Health

ND IDeA Network of Biomedical Research Excellence

Project in Medical or Health Sciences

1 Winner: Junior Division: Monetary award of \$75 and a certificate

Rusty Schafer, Flasher School District, "From Murky to Clear: The Journey of Water Purification"

ND IDeA Network of Biomedical Research Excellence

Project in Medical or Health Sciences

1 Winner: Senior Division: Monetary award of \$125 and a certificate

Noah Welch, Hankinson School District, "A Viewpoint into People's Perception of the World of Diabetes and Examining their Results Through In-Depth Analysis "

North Dakota State Science and Engineering Fair

School of Medicine & Health Sciences

Project in Medical or Health Sciences

1 Winner: Senior Division: Monetary award of \$300 and a certificate

Ava Hauck, Dickinson School District, "Convolutional Neural Networks in Hematological Analyses"

School of Medicine & Health Sciences

Project in Medical or Health Sciences

1 Winner: Senior Division: Monetary award of \$150 and a certificate

Justin Jiang, Fargo Davies School District, "Effects of the Structure of 3D Printed Scaffolds on Cell Growth"

School of Medicine & Health Sciences

Project in Medical or Health Sciences

1 Winner: Junior Division: Monetary award of \$300 and a certificate

Autumn Dusenberry, Mataya Foote, Victoria Hale, New Town School District, "Sacred Hands"

Department of Biomedical Sciences

Project in Pharmacology/Immunology

1 Winner: Junior Division: Monetary award of \$125 and a certificate

Kinley Isbell, Flasher School District, "Quantitative Analysis of Oxytetracycline Potency Degradation Over Time Using Spectrophotometer"

North Dakota State Science and Engineering Fair

Department of Biomedical Sciences

Project in Pharmacology/Immunology

1 Winner: Senior Division: Monetary award of \$125 and a certificate

Avery Stevens, Flasher School District, "Impact of High Fiber vs. Low-Fiber Diets on Gut Microbiota"

North Dakota Academy of Family Physicians

Project Related to Medicine

1 Winner: Senior Division: Monetary Award of \$50 And a Certificate

Katelyn Hur, Red River High School, "Profiling COVID-19 Vaccine Adverse Events Using Case Reports"

American Society for Clinical Laboratory Science - North Dakota

Project Related to Laboratory Medicine

3 Winners: Senior Division: Monetary Award of \$50 And a Certificate

James Gessey, Flasher School District, "The Effect of Psychoactive Substances on the Growth and Treatment of K562 Cell Lines"

Acalia Olson, Scranton School District, "Pharmaceuticals Effect on the Growth and Development of a Bean Plant"

Charlee Nenow, Gackle-Streeter School District, "What Substances can Reduce the Growth of Staphylococcus Epidermidis?"

North Dakota State Science and Engineering Fair

American Society for Clinical Laboratory Science - North Dakota

Project Related to Laboratory Medicine

3 Winners: Junior Division: Monetary Award of \$50 And a Certificate

Marlene Perez, Williston MS, "Is Hydroelectric Power Better for the Environment?"

Alaina Nenow, Gackle-Streeter School District, "Eww, I've Been Kissed by a Dog!"

Carlee Weinberger, Flasher School District, "Herbs vs. Antibiotics"

North Dakota Pharmacists Association

Project in Field of Pharmacology

1 Winner: Junior Division: Monetary Award of \$75 And a Certificate

Jeremiah Gessey, Flasher School District, "Exploring the Impact of Essential Oils on Planarian Mobility, Sensitivity and Learning Abilities"

North Dakota Pharmacists Association

Project in Field of Pharmacology

1 Winner: Senior Division: Monetary Award of \$100 And a Certificate

Cheryl Hayes, Tioga School District, "Natural vs. Synthetic Antibiotics"

Microbiology

Department of Biomedical Sciences

Project in Medical or Health Sciences

1 Winner: Senior Division: Monetary award of \$125 and a certificate

North Dakota State Science and Engineering Fair

Layla Krinke, Scranton School District, "Comparing Bacterial Growth in Ground Beef Thawed Using Different Methods"

Department of Biomedical Sciences

Project in Medical or Health Sciences

1 Winner: Junior Division: Monetary award of \$125 and a certificate

Sudarshan Gautham, Schroeder Middle School, "Five Second Rule"

Department of Biomedical Sciences

Project in Microbiology/Infectious Disease

2 Winners: Junior Division: Monetary award of \$75 each and a certificate

Chloe Bushnell, East Fairview School District, "Scrubb-a-dubb-dubb"

Alaina Nenow, Gackle-Streeter School District, "Eww, I've Been Kissed by a Dog!"

Department of Biomedical Sciences

Project in Microbiology/Infectious Disease

2 Winners: Senior Division: Monetary award of \$125 each and a certificate

Katherine Haakenson, Tioga School District, "Concentration Effectiveness"

Cassy Hartman, Flasher School District, "Impact of Bacillus subtilis on Nutrient Bioavailability and Plant Growth in Aquaponic Systems"

Military/Air Force

Air Force

Project That Has Applications Useful to Air Force

North Dakota State Science and Engineering Fair

4 Winners: Junior or Senior Division: Over-the-Shoulder Sling Pack, Power Bank Charger, Dog Tag USB Flash Drive, A Dual USB Car Charger, And a Certificate

Waylon Seelye, Tioga School District, "What is the Best Design for a Rocket?"

Delaney Bravender, Flasher School District, "AI Versus Real"

Sawyer Paulson, Hankinson School District, "Are Suppressors Superior"

Brooklyn Hepper, Flasher School District, "Coefficient of Thermal Expansion Testing True Results vs Measured Results"

Military/Navy

Navy

Project (All Categories Considered)

3 Winners: Senior Division: Educational Recognition Award Valued at \$75, A Medallion, And a Certificate

Grace Fedler, Tioga School District, "Brain drain or boost in efficiency"

Radheeka Weeraratne, Dickinson School District, "Renewable Energy Storage Innovation of Air Batteries Using Steel Anodes"

Denver Nelson, Hankinson School District, "How the Impact of a Constant Force Affects Metals at Different Temperatures"

Navy

Project (All Categories Considered)

3 Winners: Junior Division: Medallion and a Certificate

Rusty Schafer, Flasher School District, "From Murky to Clear: The Journey of Water Purification"

North Dakota State Science and Engineering Fair

Eli Hatlestad, Shiloh Christian School District, "Food Desert Relief"

Amelia Dodds, Schroeder Middle School, "Making Waves"

Military/North Dakota Army National Guard

North Dakota Army National Guard

Project That Has Applications Useful to North Dakota Army National Guard

1 Winner: Junior Division: Duffle Bag with Assortment of Items

Waylon Seelye, Tioga School District, "What is the Best Design for a Rocket?"

North Dakota Army National Guard

Project That Has Applications Useful to North Dakota Army National Guard

1 Winner: Senior Division: Backpack with Assortment of Items

Creszah Lorraine Mahinay, New Town School District, "Re-growing Lettuce in Different Water Types"

Physics/Astronomy

Department of Physics & Astrophysics

Project in Physics & Astronomy

1 winner: Junior Division: Monetary award of \$125 and a certificate

Surya Srivastava, Schroeder Middle School, "Interstellar Inch"

Department of Physics & Astrophysics

Project in Physics & Astronomy

North Dakota State Science and Engineering Fair

1 Winner: Senior Division: Monetary award of \$200, a \$1000 Physics scholarship, and a certificate

Brooklyn Hepper, Flasher School District, "Coefficient of Thermal Expansion Testing True Results vs Measured Results"

United States Metric Association

Project Using Metric System for Measurements

5 Winners: Junior Division: Certificate

Jerol Gohrick, Tioga School District, "Potato Battery"

Waylon Seelye, Tioga School District, "What is the Best Design for a Rocket?"

Tori Lewis, Sophie Peterson, Valley /Edinburg School District, "Fabric Wars"

Cooper Craven, Kidder County School District, "Burning Paper: The Time of Few "

Caleb Kennedy, Kidder County School District, "How much will it hold?"

Social/Behavioral Sciences

Department of Psychology

Project in Psychology or Behavioral Science

2 Winners: Junior Division: Monetary award of \$125 and a certificate

Amelia LaDuke, Flasher School District, "How Proficient are Children at Differentiating Candy from Medicine"

Rebekka Bohl, Flasher School District, "Which Child-Resistant Bottle is the Most Effective?"

North Dakota State Science and Engineering Fair

Department of Psychology

Project in Psychology or Behavioral Science

2 winners: Senior Division: Monetary award of \$125 and a certificate

Grace Fedler, Tioga School District, "Brain drain or boost in efficiency"

Noah Welch, Hankinson School District, "A Viewpoint into People's Perception of the World of Diabetes and Examining their Results Through In-Depth Analysis "

Virginia George Inheritance Fund

Project in Social or Behavioral Science

1 Winner: Senior Division: Monetary Award of \$75 And a Certificate

Aubrey Isakson, Kidder County School District, "Determining the Acute Toxicity Effects of Various Fuel Grades on Aquatic Ecosystems by Bioassay"

Virginia George Inheritance Fund

Project in Social or Behavioral Science

1 Winner: Junior Division: Monetary Award of \$50 And a Certificate

Nolan Sutherland, Lisbon School District, "A Study on Locational Difference's Effect on the Dialect of Students"

American Psychological Association

Project Related to Psychology

1 Winner: Junior or Senior Division: Certificate

Tracy Moch, Kidder County School District, "Where's My Keys?"

North Dakota State Science and Engineering Fair

Sweepstakes

Yale Science And Engineering Association

Project in Areas of Computer Science

1 Winner: Senior Division: Certificate And an E-book

Radheeka Weeraratne, Dickinson School District, "Renewable Energy Storage Innovation of Air Batteries Using Steel Anodes"

Regeneron Biomedical Science Award

Project Related to Biomedical Science and Research

1 Winner: Senior Division: Monetary Award of \$375 And a Certificate

James Gessey, Flasher School District, "The Effect of Psychoactive Substances on the Growth and Treatment of K562 Cell Lines"

The Hinsz and Weigum Families

Project for Effective Data Collection

1 Winner: Junior Division: Monetary Award of \$100 And a Certificate

Nolan Sutherland, Lisbon School District, "A Study on Locational Difference's Effect on the Dialect of Students"

The Hinsz and Weigum Families

Project for Effective Data Collection

1 Winner: Junior Division: Monetary Award of \$50 And a Certificate

Sawyer Paulson, Hankinson School District, "Are Suppressors Superior"

North Dakota State Science and Engineering Fair

The Hinsz and Weigum Families

Project for Effective Data Collection

1 Winner: Senior Division: Monetary Award of \$125 And a Certificate

Denver Nelson, Hankinson School District, "How the Impact of a Constant Force Affects Metals at Different Temperatures"

The Hinsz and Weigum Families

Project for Effective Data Collection

1 Winner: Senior Division: Monetary Award of \$50 And a Certificate

Katelyn Hur, Red River High School, "Profiling COVID-19 Vaccine Adverse Events Using Case Reports"

The Hinsz and Weigum Families

Project for Effective Data Analysis

1 Winner: Senior Division: Monetary Award of \$125 And a Certificate

Katelyn Hur, Red River High School, "Profiling COVID-19 Vaccine Adverse Events Using Case Reports"

The Hinsz and Weigum Families

Project for Effective Data Analysis

1 Winner: Senior Division: Monetary Award of \$50 And a Certificate

Denver Nelson, Hankinson School District, "How the Impact of a Constant Force Affects Metals at Different Temperatures"

North Dakota State Science and Engineering Fair

Water Quality

American Water Works Association

Project Related to Drinking Water Quality

1 Winner: Junior Division: Monetary Award of \$75 And a Certificate

Rusty Schafer, Flasher School District, "From Murky to Clear: The Journey of Water Purification"

American Water Works Association

Project Related to Drinking Water Quality

1 Winner: Senior Division: Monetary Award of \$75 And a Certificate

Jhosthine Tavera, New Town School District, "Water Filters Saves Lives; Water Filtration Importance"

North Dakota Water Environment Association

Project Related to Water Quality

1 Winner: Senior Division: Monetary Award of \$75 And a Certificate

Olivia Koehler, Hankinson School District, "A Comprehensive Analysis of the Effect of Nutrient Level on Plant Growth"

North Dakota Water Environment Association

Project Related to Water Quality

1 Winner: Junior Division: Monetary Award of \$75 And a Certificate

Tessla Stevenson, Scranton School District, "How Does Soil Type Affect Infiltration Rate?"

North Dakota State Science and Engineering Fair

North Dakota Rural Water Systems Association

Project Related to Water Quality

1 Winner: Senior Division: Monetary Award of \$100 And a Certificate

Cassy Hartman, Flasher School District, "Impact of Bacillus subtilis on Nutrient Bioavailability and Plant Growth in Aquaponic Systems"

Water Environment Federation

Project Related to Water Quality or Water Conditions

1 Winner: Junior or Senior Division: Certificate

Sonakshi Singhal, Red River High School, "On the Fundamental Understanding of Arsenic- Minerals Chemistry for Successful Environmental Mitigation"