

2024 FINAL AWARDS

Senior Division Sweepstakes Winners

The first place (Marcus J. Friskop Sweepstakes) winner received a gold state plaque, a hooded sweatshirt, a \$200 cash award from the Marcus J. Friskop Family, a \$600 cash award from the University of North Dakota School of Medicine and Health Sciences, and a 1 Year \$3000 Scholarship to the University of North Dakota and will advance to the ISEF in Los Angeles California and will exhibit his/her project.

The second place (sweepstakes runner-up) winner received a gold state plaque, a hooded sweatshirt, a \$300 cash award from the University of North Division Research and Economic Development, and a 1 Year \$2500 Scholarship to the University of North Dakota and will advance to the ISEF in Los Angeles California and will exhibit his/her project.

The third place (sweepstakes 2nd runner-up) winner received a state plaque, a hooded sweatshirt, a \$250 cash award from the University of North Dakota College of Arts and Sciences, and a 1 Year \$1500 Scholarship to the University of North Dakota and will advance to the ISEF in Los Angeles California and will exhibit his/her project.

Senior Division – 1st Place – Sweepstakes Winner

Gavin Kratcha, Hankinson School District, "Utilizing Machine Learning to Develop Image-Based Agricultural Optimization Software"

Senior Division – 2nd Place – Sweepstakes Runner-Up

Denver Nelson, Hankinson School District, "Minimizing the Impact of a Constant Force Using Metals"

North Dakota State Science and Engineering Fair

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

James Gessey, Flasher School District, "The Impact of Nicotine, Vaporizer, and CBD Oils on Planarian Regeneration and Cell Memory"

Senior Division Place Winners

Projects that are selected as finalists received a gold plaque and a hooded sweatshirt and will advance to the ISEF in Los Angeles California in May and will exhibit their project.

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

Northwest Region

1st Finalist: Karlee Hoyt, Trenton School District, "Frequency Effects on Marine Systems"

2nd Finalist: Madison Mock, Trenton School District, "Water Conservation with Biodegradeable Hydrogels"

3rd Finalist: Jenilynn Hanson, Tioga School District, "Organic Vs. Synthetic Herbicides"

1st Alternate: Katherine Haakenson, Tioga School District, "Concentration Effectiveness"

2nd Alternate: Josie Fernholz, Trenton School District, "Showering Acid"

3rd Alternate: Kaden Keller, Tioga School District, "Are You an A.I.?"

North Dakota State Science and Engineering Fair

Northeast Region

1st Finalist: Malory Kemp, Cavalier School District, "Management of Nitrogen and Phosphorus Biogeochemical Cycles through Harvest of *Chlorella vulgaris* and *Elodea canadensis*"

Southwest Central Region

1st Finalist: Grant Hauge, Flasher School District, "Optimizing Nitrate Levels in Sudan Grass: Exploring the Impact of Fertilizer Quantity in Agricultural Practices"

2nd Finalist: Aidyn Fisher, Scranton School District, "The Effect of Different Airfoils on Wind Turbine Energy Production"

3rd Finalist: Paige Zenker, Flasher School District, "Effects of L-Glutamine on the Root Growth of Soybeans"

1st Alternate: Cody Bahm, Cody Geffre, Flasher School District, "Price Efficient Body Armor Plates for Protecting Our Students"

2nd Alternate: Ava Hauck, Dickinson School District, "Remote Wildfire Detection through Spectrum Recognition"

3rd Alternate: Annelise Bates: Wilton School District, "Equine Leg Protection and Its Effect on the Temp of the Tendons"

North Dakota State Science and Engineering Fair

Southeast Region

1st Finalist: Elise Elliot, Hankinson School District, "How Environmental Changes Impact Sleep" 2nd Finalist: Sara Pfeifle, Ashley School District, "I-Be-Proven Fast Dissolving"

3rd Finalist: Amla Prochnow, Hankinson School District, "The Microbiological Assessment of Air Quality and Surface Contamination in Agricultural Work Spaces"

1st Alternate: Olivia Koehler, Hankinson School District, "A Chemical Comparison of Drinking Water" 2nd Alternate: Kenadi David, Hankinson School District, "Cool Beans!"

3rd Alternate: Brayden Sutherland, Lisbon School District, "Nutrition Habits of Athletes"

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. 5

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

Evelyn Chambers, Woodhaven Academy, "Cockroach Neurosciences: A Gateway to Human Communication"

Junior Division – 2nd Place – Sweepstakes Runner-Up

Jocelyn Zingg, Flasher School District, "The Power of Nitrogen"

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.

North Dakota State Science and Engineering Fair

Northwest Region

1st Place: Marlene Perez, WMSCC, "How can we reduce the amount of trash in the ocean?" 2nd Place: Harper Ferguson, Tioga School District, "Bale Grazed vs Non-bale Grazed Land" 3rd Place: Mason Cregar, WMSCC, "Which Paper Airplane design will fly the farthest?"

4th Place: Lane Lenzen, Tioga School District, "Best Manure Fertilizer"

5th Place: Waylon Seelye, Tioga School District, "Making Clean Electricity from Oil Wells"

Northeast Region

1st Place: Caleb Wild, Schroeder Middle School, "Shell Shocked"

2nd Place: Che Yu, South Middle School, "Image recognition for home security"

3rd Place: Amaa Wijetunga, South Middle School, "The Revival of Coffee Grounds"

4th Place: Milla Fagerholt, Gianna Hall, Valley/Edinburg Middle School, "Hydrogels or Hype?" 5th Place: Espenn Johnson, Schroeder Middle School, "Wind vs. Watter"

Southwest Central Region

1st Place: Aubrey Roehrich, Linton School District, "Are Fingerprints Inherited?"

2nd Place: Darron Frank, Cassy Hartman, Flasher School District, "Adaptive Mechanical Arm for Functional Accessibility for Individuals with Limited Range of Motion"

3rd Place: Grace Taplin, Shiloh Christian School District, "AI Real or Fake"

4th Place: Cody Deichert, Flasher School District, "Pull Me Right Around"

5th Place: Layla Krinke, Scranton School District, "Water pH Levels Affecting Yeast Fermentation in Bread"

North Dakota State Science and Engineering Fair

Southeast Region

1st Place: Ava Frolek , Lidgerwood School District, "Air For Less "

2nd Place: Karly Rivinius, Gackle-Streeter School District, "Neospora Caninum in Cattle"

3rd Place: Nolan Sutherland, Lisbon School District, "Is Plastic or Paper Money Cleaner"

4th Place: Calli Schaunaman, Ashley School District, "Plant Propagation"

5th Place: Ben Sutherland, Lisbon School District, "Are You Organized"

Agriculture/Soil Science

Farmers Union Insurance - North Dakota

Project Related to Agriculture

2 Winners: Senior Division: Monetary Award of \$25 And a Certificate

Gavin Kratcha, Hankinson School District, "Utilizing Machine Learning to Develop Image-Based Agricultural Optimization Software"

Sonakshi Singhal, Red River High School, "The Potential of Arsenic Remediation by Geomineralization."

Farmers Union Insurance - North Dakota

Project Related to Agriculture

2 Winners: Junior Division: Monetary Award of \$25 And a Certificate

Jocelyn Zingg, Flasher School District, "The Power of Nitrogen"

Karly Rivinius, Gackle-Streeter School District, "Neospora Caninum in Cattle"

North Dakota State Science and Engineering Fair

North Dakota Farm Bureau

Project Related to Agriculture

2 Winners: Senior Division: Monetary Award of \$25 And a Certificate

Paige Zenker, Flasher School District, "Effects of L-Glutamine on the Root Growth of Soybeans" Abigail Ferguson, Tioga School District, "Management Effects on Soil Health"

North Dakota Farm Bureau

Project Related to Agriculture

2 Winners: Junior Division: Monetary Award of \$25 And a Certificate

Calli Schaunaman, Ashley School District, "Plant Propagation"

Daphne Tredwell, WMSCC, "The Good, The Bad, and the Ugly"

Chemistry/Biochemistry

Department of Chemistry

Project in Chemistry

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

Avery Stevens, Flasher School District, "The Effects of Essential Oils on Ascorbic Acid Decay in Citric Juice"

Department of Chemistry

Project in Chemistry

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

Sonakshi Singhal, Red River High School, "The Potential of Arsenic Remediation by Geomineralization."

North Dakota State Science and Engineering Fair

American Chemical Society-Red River Valley Section

Project in Field of Chemistry

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

Charlee Nenow, Gackle-Streeter School District, "Tooth Stain vs. Toothpaste Featuring Eggs"

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

Olivia Koehler, Hankinson School District, "A Chemical Comparison of Drinking Water"

NDSSEF Association

Project in Biochemistry

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

Layla Krinke, Scranton School District, "Water pH Levels Affecting Yeast Fermentation in Bread"

NDSSEF Association

Project in Biochemistry

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

Payton Raan, Tioga School District, "DNA Fingerprinting: Testing Frequencies"

North Dakota State Science and Engineering Fair

Earth/Atmospheric Sciences

Harold Hamm School of Geology & Geological Engineering

Project in Geology/ Geological Engineering

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

Amaa Wijetunga, South Middle School, "The Revival of Coffee Grounds"

Harold Hamm School of Geology & Geological Engineering

Project in Geology/ Geological Engineering

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

Paige Zenker, Flasher School District, "Effects of L-Glutamine on the Root Growth of Soybeans"

Department of Atmospheric Sciences

Project in Atmospheric Sciences

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

Ava Hauck, Dickinson School District, "Remote Wildfire Detection through Spectrum Recognition"

Department of Geography

Project in Geography

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

Nellie Dachtler, Schroeder Middle School, "To Salinity...And Beyond!"

North Dakota State Science and Engineering Fair

Department of Geography

Project in Geography

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

Karlee Hoyt, Trenton School District, "Frequency Effects on Marine Systems"

North Dakota Geological Society

Project in Field of Geology or Earth Science

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

Kingslove Falade, WMSCC, "A natural sorbent which could clean up oil spills and would replace harmful remediation solutions"

North Dakota Geological Society

Project in Field of Geology or Earth Science

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

Grant Hauge, Flasher School District, "Optimizing Nitrate Levels in Sudan Grass: Exploring the Impact of Fertilizer Quantity in Agricultural Practices"

National Weather Service

Project Related to Meteorology

1 Winner: Junior Division: Certificate

Nellie Dachtler, Schroeder Middle School, "To Salinity...And Beyond!"

North Dakota State Science and Engineering Fair

National Weather Service

Project Related to Meteorology

1 Winner: Senior Division: Certificate

Amla Prochnow, Hankinson School District, "The Microbiological Assessment of Air Quality and Surface Contamination in Agricultural Work Spaces"

Association For Women Geoscientists

Project Related to Geosciences

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

Jocelyn Rossow, Piper Schmidt, Flasher School District, "The Impact of Runoff Water from Beef Cattle Feedlots on Wheat Crop Growth"

National Oceanic & Atmospheric Administration

Project Related to Improved Understanding of the Earth's Processes

1 Winner: Junior Division: Certificate And a Medallion

Nellie Dachtler, Schroeder Middle School, "To Salinity...And Beyond!"

NASA Earth System Science Award

Project Related to Earth's Interconnected Systems

1 Winner: Junior or Senior Division: Certificate

Karlee Hoyt, Trenton School District, "Frequency Effects on Marine Systems"

North Dakota State Science and Engineering Fair

Energy/Power/Electricity

Otter Tail Power Company

Project Related to Energy or Electricity

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

Denver Nelson, Hankinson School District, "Minimizing the Impact of a Constant Force Using Metals" Xzander Schwartz, Trenton School District, "Electromagnetic Strength"

Dwayne Declaro, Tioga School District, "Electromagnetism"

Otter Tail Power Company

Project Related to Energy or Electricity

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

Emmons Casavant, Shiloh Christian School District, "Icing the Puck" Ava Frolek, Lidgerwood School District, "Air For Less "

Xcel Energy

Project Related to Energy or Electricity

3 Winners: Junior Division: Monetary Award of \$25 And a Certificate

Lila Sateren, Schroeder Middle School, "Hot Box"

Jaxson Cowan, WMSCC, "Magnetic Field Machine"

Waylon Seelye, Tioga School District, "Making Clean Electricity from Oil Wells"

North Dakota State Science and Engineering Fair

Xcel Energy

Project Related to Energy or Electricity

3 Winners: Senior Division: Monetary Award of \$25 And a Certificate

Aidyn Fisher, Scranton School District, "The Effect of Different Airfoils on Wind Turbine Energy Production"

Molly Hauk, Trenton School District, "How to Make a battery"

Caydence Cayko, Trenton School District, "Seeing Sound"

Enerplus

Project Related to Energy

1 Winner: Junior Division: Monetary Award of \$500, A Water Bottle, A Back Pack And a Certificate Espenn Johnson, Schroeder Middle School, "Wind vs. Watter"

Enerplus

Project Related to Energy

1 Winner: Senior Division: Monetary Award of \$500, A Water Bottle, A Back Pack And a Certificate Aidyn Fisher, Scranton School District, "The Effect of Different Airfoils on Wind Turbine Energy Production"

Engineering

Department of Petroleum Engineering

Project in Engineering

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

Karlee Hoyt, Trenton School District, "Frequency Effects on Marine Systems"

North Dakota State Science and Engineering Fair

College of Engineering and Mines

Project in Engineering

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

Waylon Seelye, Tioga School District, "Making Clean Electricity from Oil Wells"

College of Engineering and Mines

Project in Engineering

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

Caydin Hughes, Trenton School District, "Natural or Chemical Refrigerants"

College of Engineering and Mines

Project in Engineering (Female Winner)

1 Winner: Senior Division: Monetary Award of \$125 And a \$500 Engineering Scholarship And a Certificate

Ava Hauck, Dickinson School District, "Remote Wildfire Detection through Spectrum Recognition"

Biomedical Engineering Program

Project in Biomedical Engineering

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

Ava Frolek, Lidgerwood School District, "Air For Less "

North Dakota State Science and Engineering Fair

Biomedical Engineering Program

Project in Biomedical Engineering

1 Winner: Senior Division: Monetary Award of \$150 And a Certificate

Madison Mock, Trenton School District, "Water Conservation with Biodegradeable Hydrogels"

Society of Automotive Engineers

Project in Mobility Engineering

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

Mason Cregar, WMSCC, "Which Paper Airplane design will fly the farthest?"

Society of Automotive Engineers

Project in Mobility Engineering

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

Xzander Schwartz, Trenton School District, "Electromagnetic Strength"

NPS Metals a Division of Owen Industries

Project Related to Manufacturing

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

Jeremiah Walsh, Tioga School District, "Shaking Things Up"

North Dakota State Science and Engineering Fair

NPS Metals a Division of Owen Industries

Project Related to Manufacturing

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

Denver Nelson, Hankinson School District, "Minimizing the Impact of a Constant Force Using Metals"

Engineering (Chemical)

Department of Chemical Engineering

Project in Chemical Engineering

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

Jackson Lang, Kidder County School District, "The Gluiest of The Glues"

Department of Chemical Engineering

Project in Chemical Engineering

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

Cody Bahm, Cody Geffre, Flasher School District, "Price Efficient Body Armor Plates for Protecting Our Students"

Engineering (Civil)

Department of Civil Engineering

Project in Civil Engineering

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

Amaa Wijetunga, South Middle School, "The Revival of Coffee Grounds"

North Dakota State Science and Engineering Fair

Department of Civil Engineering

Project in Civil Engineering

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

Malory Kemp, Cavalier School District, "Management of Nitrogen and Phosphorus Biogeochemical Cycles through Harvest of *Chlorella vulgaris* and *Elodea canadensis*"

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

Jacobi Holmen, Tioga School District, "How to Make a Light Bulb"

Dr. Richard Schultz Award - Department of Electrical Engineering

Project in Electrical Engineering

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

Gavin Kratcha, Hankinson School District, "Utilizing Machine Learning to Develop Image-Based Agricultural Optimization Software"

Engineering (Mechanical)

Department of Mechanical Engineering

Project in Mechanical Engineering

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

Cody Deichert, Flasher School District, "Pull Me Right Around"

Department of Mechanical Engineering

North Dakota State Science and Engineering Fair

Project in Mechanical Engineering

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

Aidyn Fisher, Scranton School District, "The Effect of Different Airfoils on Wind Turbine Energy Production"

Environmental Science

Ricoh Corporation

Project Related to Environmentally Friendly Businesses

1 Winner: Senior Division: Certificate

Aidyn Fisher, Scranton School District, "The Effect of Different Airfoils on Wind Turbine Energy Production"

NDSSEF Association

Project Related to Environmental Remediation

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

Waylon Seelye, Tioga School District, "Making Clean Electricity from Oil Wells"

NDSSEF Association

Project Related to Environmental Remediation

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

Karlee Hoyt, Trenton School District, "Frequency Effects on Marine Systems"

Malory Kemp, Cavalier School District, "Management of Nitrogen and Phosphorus Biogeochemical Cycles through Harvest of *Chlorella vulgaris* and *Elodea canadensis*"

North Dakota State Science and Engineering Fair

College of Engineering and Mines

Project in Energy/Environmental Science

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

Ava Hauck, Dickinson School District, "Remote Wildfire Detection through Spectrum Recognition"

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

Aubrey Ratliff, Maybelline Altamirano, Valley/Edinburg Middle School, "Save the Strawberries!"

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

Brooke Homola, Gackle-Streeter School District, "Which Energy Drink is Worst for Your Teeth?"

NDSSEF Association

Project Related to Human Nutrition or Food Science

2 Winners: Junior Division: Monetary Award of \$25 And a Certificate

Layla Krinke, Scranton School District, "Water pH Levels Affecting Yeast Fermentation in Bread" Acalia Olson, Scranton School District, "To Drink or Not to Drink"

North Dakota State Science and Engineering Fair

NDSSEF Association

Project Related to Human Nutrition or Food Science

2 Winners: Senior Division: Monetary Award of \$25 And a Certificate

Brayden Sutherland, Lisbon School District, "Nutrition Habits of Athletes"

Arianna Bevre, Hankinson School District, "Comparing Peoples Ability To Distribute Serving Sizes"

ISEF Alumni

ISEF Alumni

Project as Determined by ISEF Judges

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

Gavin Kratcha, Hankinson School District, "Utilizing Machine Learning to Develop Image-Based Agricultural Optimization Software"

ISEF Alumni

Project as Determined by ISEF Judges

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

Denver Nelson, Hankinson School District, "Minimizing the Impact of a Constant Force Using Metals"

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 And a Certificate

Aubrey Roehrich, Linton School District, "Are Fingerprints Inherited?"

Nellie Dachtler, Schroeder Middle School, "To Salinity...And Beyond!"

Department of Biomedical Sciences

Project in Area of Life Sciences (Molecular Biology Emphasis)

2 Winners: Senior Division: Monetary Award of \$75 And a Certificate

Karlee Hoyt, Trenton School District, "Frequency Effects on Marine Systems"

Sara Pfeifle, Ashley School District, "I-Be-Proven Fast Dissolving"

Department of Biology

Project in Biology

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

Evelyn Chambers, Woodhaven Academy, "Cockroach Neruoscience: A Gateway to Human Communication"

Department of Biology

Project in Biology

1 Winner: Senior Division: Monetary Award of \$125 And a \$500 Biology Scholarship
And a Certificate

Abagail Ferguson, Tioga School District, "Management Effects on Soil Health"

North Dakota State Science and Engineering Fair

North Dakota Veterinary Medical Association

Project Related to Veterinary Medicine

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

Gentry Schmidt, Flasher School District, "Calorie Count"

North Dakota Veterinary Medical Association

Project Related to Veterinary Medicine

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

Annelise Bates, Wilton School District, "Equine Leg Protection and Its Effect on the Temp of the Tendons"

North Dakota Veterinary Medical Association

Project Related to Veterinary Medicine

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

Emily Meier, Grant County School District, "Happy Herd"

Auxiliary to the North Dakota Veterinary Medical Association

Project Related to Veterinary Medicine

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

Karly Rivinius, Gackle-Streeter School District, "Neospora Caninum in Cattle"

North Dakota State Science and Engineering Fair

Society for In Vitro Biology

Project in the Area of Tissue Culture

1 Winner: 11th Grader Division: Certificate

James Gessey, Flasher School District, "The Impact of Nicotine, Vaporizer, and CBD Oils on Planarian Regeneration and Cell Memory"

NDSSEF Association

Project in Botany

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

Milla Fagerholt, Gianna Hall, Valley/Edinburg Middle School, "Hydrogels or Hype?"

NDSSEF Association

Project in Botany

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

Gavin Kratcha, Hankinson School District, "Utilizing Machine Learning to Develop Image-Based Agricultural Optimization Software"

Mathematics/Computer Science

Department of Mathematics

Project in Mathematics

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

Keira Simonson, Sweet Briar School District, "Tiling with Spidrons"

North Dakota State Science and Engineering Fair

Department of Mathematics

Project in Mathematics

1 Winner: Senior Division: Monetary Award of \$125 And a \$500 Mathematics Scholarship And a Certificate

Dwayne Declaro, Tioga School District, "Electromagnetism"

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, "Image recognition for home security"

School of Electrical Engineering & Computer Science

Project in Computer Science

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

Ava Hauck, Dickinson School District, "Remote Wildfire Detection through Spectrum Recognition"

The Title Team

Project Related to Computer Science (Emphasis in Artificial Intelligence)

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

Evelyn Chambers, Woodhaven Academy, "Cockroach Neruoscience: A Gateway to Human Communication"

North Dakota State Science and Engineering Fair

The Title Team

Project Related to Computer Science (Emphasis in Artificial Intelligence)

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

Gavin Kratcha, Hankinson School District, "Utilizing Machine Learning to Develop Image-Based Agricultural Optimization Software"

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 Addilyn Risky, Schroeder Middle School, "Lettuce Grow"

ND IDeA Network of Biomedical Research Excellence

Project in Medical or Health Sciences

1 Winner: Senior Division: Monetary Award of \$125 And a Certificate Brayden Sutherland, Lisbon School District, "Nutrition Habits of Athletes"

School of Medicine & Health Sciences

Project in Medical or Health Sciences

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

James Gessey, Flasher School District, "The Impact of Nicotine, Vaporizer, and CBD Oils on Planarian Regeneration and Cell Memory"

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 \$150 And a Certificate

Elyse Tufte, Kidder County School District, "R U Real??"

School of Medicine & Health Sciences

Project in Medical or Health Sciences

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

Jory Bonogofsky, Flasher School District, "Blood Clotting to the Rescue"

Department of Biomedical Sciences

Project in Pharmacology/Immunology

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

Sophie Sundheim, East Fairview School District, "Dirty Germies!"

Department of Biomedical Sciences

Project in Pharmacology/Immunology

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

Alivia Geffre, Daci Wells, Flasher School District, "Determining the Superior Antimicrobial Agent: Essential Oils, Antibiotics, and Plant Extracts in Eradicating E. coli Infections"

North Dakota State Science and Engineering Fair

North Dakota Academy of Family Physicians

Project Related to Medicine

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

Annelise Bates, Wilton School District, "Equine Leg Protection and Its Effect on the Temp of the Tendons"

American Society for Clinical Laboratory Science - North Dakota

Project Related to Laboratory Medicine

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

Olivia Koehler, Hankinson School District, "A Chemical Comparison of Drinking Water"

Chaskee Schmidt, Skye Weinberger, Flasher School District, "Testing Natural Ingredients, Essential Oils, and Antibiotics on E. coli"

James Gessey, Flasher School District, "The Impact of Nicotine, Vaporizer, and CBD Oils on Planarian Regeneration and Cell Memory"

American Society for Clinical Laboratory Science - North Dakota

Project Related to Laboratory Medicine

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

Evelyn Chambers, Woodhaven Academy, "Cockroach Neruoscience: A Gateway to Human Communication"

Karly Rivinius, Gackle-Streeter Public School District, "Neospora Caninum in Cattle"

Aubrey Roehrich, Linton School District, "Are Fingerprints Inherited?"

North Dakota State Science and Engineering Fair

North Dakota Pharmacists Association

Project in Field of Pharmacology

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

Acalia Olson, Scranton School District, "To Drink or Not to Drink"

North Dakota Pharmacists Association

Project in Field of Pharmacology

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

Sara Pfeifle, Ashley School District, "I-Be-Proven Fast Dissolving"

NDSSEF Association

Project Related to Dentistry

2 Winners: Junior Division: Monetary Award of \$25 And a Certificate

Leah Placek, Tioga School District, "Which Mouthwash Will Kill the Most Bacteria?"

Charlee Nenow, Gackle-Streeter School District, "Tooth Stain vs. Toothpaste Featuring Eggs"

NDSSEF Association

Project Related to Dentistry

2 Winners: Senior Division: Monetary Award of \$25 And a Certificate

Jade Shipley, Kidder County School District, "Purple Perfection"

Brooke Homola, Gackle-Streeter School District, "Which Energy Drink is Worst for Your Teeth?"

North Dakota State Science and Engineering Fair

Microbiology

Department of Biomedical Sciences

Project in Microbiology/Infectious Disease

2 Winners: Junior Division: Monetary Award of \$75 And a Certificate

Sophie Sundheim, East Fairview School District, "Dirty Germies!"

Aubrey Roehrich, Linton School District, "Are Fingerprints Inherited?"

Department of Biomedical Sciences

Project in Microbiology/Infectious Disease

2 Winners: Senior Division: Monetary Award of \$125 And a Certificate

Katherine Haakenson, Tioga School District, "Concentration Effectiveness"

Alivia Geffre, Daci Wells, Flasher School District, "Determining the Superior Antimicrobial Agent: Essential Oils, Antibiotics, and Plant Extracts in Eradicating E. coli Infections"

Department of Biomedical Sciences

Project in Medical or Health Sciences

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

Layla Krinke, Scranton School District, "Water pH Levels Affecting Yeast Fermentation in Bread"

North Dakota State Science and Engineering Fair

Department of Biomedical Sciences

Project in Medical or Health Sciences

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

Amla Prochnow, Hankinson School District, "The Microbiological Assessment of Air Quality and Surface Contamination in Agricultural Work Spaces"

Military/Air Force

Air Force

Project That Has Applications Useful to Air Force

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

Evelyn Chambers, Woodhaven Academy, "Cockroach Neurosciences: A Gateway to Human Communication"

Gavin Kratcha, Hankinson School District, "Utilizing Machine Learning to Develop Image-Based Agricultural Optimization Software"

Sara Pfeifle, Ashley School District, "I-Be-Proven Fast Dissolving"

Cody Bahm, Cody Geffre, Flasher School District, "Price Efficient Body Armor Plates for Protecting Our Students"

Ava Hauck, Dickinson School District, "Remote Wildfire Detection through Spectrum Recognition" Elise Elliot, Hankinson School District, "How Environmental Changes Impact Sleep"

North Dakota State Science and Engineering Fair

Military/Navy

Navy

Project (All Categories Considered)

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

Katherine Haakenson, Tioga School District, "Concentration Effectiveness"

Drew Stroh, Kidder County School District, "Real or AI?"

Amla Prochnow, Hankinson School District, "The Microbiological Assessment of Air Quality and Surface Contamination in Agricultural Work Spaces"

Navy

Project (All Categories Considered)

3 Winners: Junior Division: Medallion And a Certificate

Evelyn Chambers, Woodhaven Academy, "Cockroach Neruoscience: A Gateway to Human Communication"

Emmons Casavant, Shiloh Christian School District, "Icing the Puck"

Che Yu, South Middle School, "Image recognition for home security"

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: Backpack With Assortment of Items

Che Yu, South Middle School, "Image recognition for home security"

North Dakota State Science and Engineering Fair

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

Ava Hauck, Dickinson School District, "Remote Wildfire Detection through Spectrum Recognition"

Physics/Astronomy

Department of Physics & Astrophysics

Project in Physics & Astronomy

2 Winners: Junior Division: Monetary Award of \$125 And a Certificate

Caleb Wild, Schroeder Middle School, "Shell Shocked"

Jeremiah Walsh, Tioga School District, "Shaking Things Up"

Department of Physics & Astrophysics

Project in Physics & Astronomy

1 Winner: Senior Division: Monetary Award of \$125 And a \$500 Physics Scholarship And a Certificate Ava Hauck, Dickinson School District, "Remote Wildfire Detection through Spectrum Recognition"

North Dakota State Science and Engineering Fair

United States Metric Association

Project Using Metric System for Measurements

5 Winners: Junior Division: Certificate

Emmons Casavant, Shiloh Christian School District, "Icing the Puck"

Lila Sateren, Schroeder Middle School, "Hot Box"

Mason Cregar, WMSCC, "Which Paper Airplane design will fly the farthest?"

Brooklyn Hepper, Flasher School District, "Beam End Reactions: Comparing Theoretical with Experimental Values"

Darron Frank, Cassy Hartman, Flasher School District, "Adaptive Mechanical Arm for Functional Accessibility for Individuals with Limited Range of Motion"

Social/Behavioral Sciences

Department of Psychology

Project in Psychology or Behavioral Science

2 Winners: Junior Division: Monetary Award of \$125 And a Certificate

Evelyn Chambers, Woodhaven Academy, "Cockroach Neruoscience: A Gateway to Human Communication"

Tracy Moch, Kidder County School District, "Colors of The Brainbow"

Department of Psychology

Project in Psychology or Behavioral Science

2 winners: Senior Division: Monetary Award of \$125 And a Certificate

Drew Stroh, Kidder County School District, "Real or AI?"

Aubrey Isakson, Kidder County School District, "Pen vs. Pixel"

North Dakota State Science and Engineering Fair

Virginia George Inheritance Fund

Project in Social or Behavioral Science

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

Arianna Bevre, Hankinson School District, "Comparing Peoples Ability To Distribute Serving Sizes"

Virginia George Inheritance Fund

Project in Social or Behavioral Science

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

Aubrey Roehrich, Linton School District, "Are Fingerprints Inherited?"

American Psychological Association

Project Related to Psychology

1 Winner: Junior or Senior Division: Certificate

Brayden Sutherland, Lisbon School District, "Nutrition Habits of Athletes"

Sweepstakes

Yale Science And Engineering Association

Project in Areas of Computer Science

1 Winner: Senior Division: Medallion And a Certificate

Denver Nelson, Hankinson School District, "Minimizing the Impact of a Constant Force Using Metals"

North Dakota State Science and Engineering Fair

Community Innovation Award

Project Related to Community

1 Winner: Junior or Senior Division: Monetary Award of \$500 And a Certificate

Evelyn Chambers, Woodhaven Academy, "Cockroach Neruoscience: A Gateway to Human Communication"

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 Impact of Nicotine, Vaporizer, and CBD Oils on Planarian Regeneration and Cell Memory"

United States Agency for International Development

Project in Science and Technology That Can Advance Our Ability to Meet Current and Future Development Challenges

1 Winner: Senior Division: Certificate

Karlee Hoyt, Trenton School District, "Frequency Effects on Marine Systems"

Water Quality

American Water Works Association

Project Related to Drinking Water Quality

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

Chad Casperson, WMSCC, "Lifestraw"

North Dakota State Science and Engineering Fair

American Water Works Association

Project Related to Drinking Water Quality

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

Sonakshi Singhal, Red River High School, "The Potential of Arsenic Remediation by Geomineralization."

North Dakota Water Environment Association

Project Related to Water Quality

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

Malory Kemp, Cavalier School District, "Management of Nitrogen and Phosphorus Biogeochemical Cycles through Harvest of *Chlorella vulgaris* and *Elodea canadensis*"

North Dakota Water Environment Association

Project Related to Water Quality

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

Addilyn Risky, Schroeder Middle School, "Lettuce Grow"

North Dakota Rural Water Systems Association

Project Related to Water Quality

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

Olivia Koehler, Hankinson School District, "A Chemical Comparison of Drinking Water"

North Dakota State Science and Engineering Fair

Water Environment Federation

Project Related to Water Quality or Water Conditions

1 Winner: Junior or Senior Division: Certificate

Jason Weinberger, Flasher School District, "Nutrient Runoff Dynamics: Investigating Phosphate and Nitrogen Effects on Daphnia and Water Quality"