

# 2013 Final Awards – ND State Science and Engineering Fair

## Agriculture/Soil Science

### **UND Graduate School**

Project Related to Agriculture

1 winner: Junior Division : Received a cash award of \$50 and a certificate

Lakin Mauch, Hankinson School District , The Agricultural Effects of Natural Products on Wheat

### **UND Graduate School**

Project Related to Agriculture

1 winner: Senior Division : Received a cash award of \$100 and a certificate

Dre Steinwehr, Hankinson School District , The Usage of Polyphenol and Spinosad Compounds as Biopesticides

### **North Dakota Soil Conservation District/Auxiliary**

Project Related to Soil Conservation

1 Winner: Senior Division : Received A Cash Award Of \$75 And A Certificate

Carter Mauch, Hankinson School District , The Effects of Noxious Weeds on Navy Beans

### **North Dakota Soil Conservation District/Auxiliary**

Project Related to Soil Conservation

1 Winner: Senior Division : Received A Cash Award Of \$25 And A Certificate

Grady Mauch, Hankinson School District , The Fungicidal Attributes of Invasive Plants on Soybeans

### **North Dakota Soil Conservation District/Auxiliary**

Project Related to Soil Conservation

1 Winner: Junior Division : Received A Cash Award Of \$75 And A Certificate

Brooklyn Vollmer, Wing School District , Cover Crop Chaos

### **North Dakota Soil Conservation District/Auxiliary**

Project Related to Soil Conservation

1 Winner: Junior Division : Received A Cash Award Of \$25 And A Certificate

Nick Whaley, Park River School District , Erosion Explosion

### **Farmers Union Insurance - North Dakota**

Project Related to Agriculture

2 Winners: Senior Division : Received A Cash Award Of \$50 And A Certificate

Paige Schmidt, Kidder Co. Tappen School District , Artificially Inseminated or Bull Bred (2)

Brenna Ketterling, Wishek School District , The Effects of Soil Type and Fertilizer on Water Quality

### **Farmers Union Insurance - North Dakota**

Project Related to Agriculture

2 Winners: Junior Division : Received A Cash Award Of \$25 And A Certificate

Cody Mauch, Hankinson School District , The Effects of Weed Extracts on the Growth of Glycine max

Mya Steinwehr, Hankinson School District , The Effects of Natural Bactericides on Green Beans

## Air Force

### **United States Air Force**

Project That Has Applications Useful to Air Force

4 Winners: Junior or Senior Division : Received A Laptop Backpack, A Personal Lunch Bag, A 3-In-1 Calculator/Picture Frame/Lcd Digital Clock, A Helicopter Pen, And A Certificate

Betsy Asp, Hankinson School District , The Antibiotic Potential of Natural Herbs

Lauren Cain, Oak Grove School District , Wells and Well Being

Matthew Schaeftbauer, Strasburg School District , Programming for Students

Teri Loll, Hankinson School District , The Effects of Antacids on Acidity and the Growth of E. coli

## Army

### **United States Army**

Project in All of The ISEF Categories

1 Winner: Senior Division : Received A Certificate In A Presentation Folder A \$50 Cash Award And A Silver Medallion For Science Excellence

Devarshi Patel, Red River School District , Protective Role of Selenium Against Methyl-mercury Poisoning in House Crickets (*Acheta domesticus*)

### **United States Army**

Project in The Engineering Categories

1 Winner: Senior Division : Received A Certificate In A Presentation Folder & A \$25 Cash Award

Matthew Schaeftbauer, Strasburg School District , Programming for Students

### **United States Army**

Project in The Environmental Science Categories

1 Winner: Senior Division : Received A Certificate In A Presentation Folder & A \$25 Cash Award

Alexander Spilman, Mandan School District , Study of TENORM Deposits in Oil Field Equipment

### **United States Army**

Project in Mathematics/Computer Categories

1 Winner: Senior Division : Received A Certificate In A Presentation Folder & A \$25 Cash Award

Sean Loken, Wishek School District , Solar Engine Applications

### **United States Army**

Project in The Physical Science Categories

1 Winner: Senior Division : Received A Certificate In A Presentation Folder & A \$25 Cash Award

Tyler Toepke-Floyd, Wishek School District , Emmission Reduction Through Solvent Polarity

## Chemistry/Biochemistry

### **UND Department of Chemistry**

Project in the Chemistry Category

1 winner: Junior Division : Received a cash award of \$50 and a certificate

Dale Spilman, Mandan School District , Effective Treatment of Ammonia in Wastewater

### **UND Department of Chemistry**

Project in the Chemistry Category

1 winner: Senior Division : Received a cash award of \$100 and a \$300 scholarship and a certificate

Gage Metzen, Hankinson School District , Aquatic Plants: Today's Solution to River Pollution

### **American Association for Clinical Chemistry**

Project in Clinical Chemistry

1 Winner: Senior Division : Received A Cash Award Of \$100 And A Certificate

Lucas Ensign, Dickinson School District , Quantitative Analysis of Is-butyl-propanic-phenolic Acid in Various Brands of Ibuprofen Tablets

### **American Chemical Society-Red River Valley Section**

Project in Field of Chemistry

1 Winner: Junior or Senior Division : Received A \$100 Barnes And Noble Gift Card A Certificate And A Periodic Table Refrigerator Magnet

Dre Steinwehr, Hankinson School District , The Usage of Polyphenol and Spinosad Compounds as Biopesticides

### **NDSSEF Association**

Project in Biochemistry

1 Winner: Junior Division : Received A Cash Award of \$50 And A Certificate

Brandon Skjoiten, Hankinson School District , A Chemical and Biological Analysis of Lake Elsie

### **NDSSEF Association**

Project in Biochemistry

1 Winner: Senior Division : Received A Cash Award of \$50 And A Certificate

Dre Steinwehr, Hankinson School District , The Usage of Polyphenol and Spinosad Compounds as Biopesticides

## Dentistry/Optometry

### **North Dakota Optometric Association**

Project in Field of Optometry

2 Winners: Senior Division : Received A Cash Award Of \$50 And A Certificate

Caitlyn Miller, Lakota School District , Does Age Affect Afterimage Persistence?

Wyatt Wilm, Hankinson School District , The Distraction Tendencies of Humans

### **North Dakota Optometric Association**

Project in Field of Optometry

2 Winners: Junior Division : Received A Cash Award Of \$50 And A Certificate

Madi Kraft, Sawyer School District , Is There Light in Your Gelatin?

Miranda Penner, Trinity Christian School District , Light, Does It Really Increase Focus?

### **North Dakota Dental Association**

Project Related to Dentistry

2 Winners: Junior Division : Received A Cash Award Of \$50 And A Certificate  
Ashley Segal, Oak Grove School District , Inside a Horses Mouth  
Shantae Bentz, Trenton School District , An Icky Sticky Situation

### **North Dakota Dental Association**

Project Related to Dentistry

2 Winners: Senior Division : Received A Cash Award Of \$50 And A Certificate  
Brennen Boll, Hankinson School District , The Effects of Various Toothpaste on Streptococci  
Bacteria  
Madysen Houle, Trenton School District , Mouth Invaders

## **Earth/Atmospheric Sciences**

### **UND Department of Atmospheric Sciences**

Project in the Field of Atmospheric Science

1 winner: Junior or Senior Division : Received a cash award of \$75 and a certificate  
Erin Haase, Ellendale School District , And the Forecast Is....

### **UND Department of Geography**

Project in the Geography Category

1 winner: Junior Division : Received a cash award of \$50 and a certificate  
Abbey Simonson, Oak Grove School District , What's in the Wetlands?

### **UND Department of Geography**

Project in the Geography Category

1 winner: Senior Division : Received a cash award of \$50 and a \$250 scholarship and a certificate  
Sarah Telehey, Trinity Christian School District , The Trouble With Typha Latifolia

### **UND Odegard School of Aerospace Sciences**

Project Related to Aerospace Sciences

2 winners: Junior Division : Received a cash award of \$100 and a certificate  
Zoey Reyna, Trenton School District , Power Of The Wind  
Eric Spilman, Mandan School District , Impact of Sun's Angle on Solar Panels

### **UND Odegard School of Aerospace Sciences**

Project Related to Aerospace Sciences

2 winners: Senior Division : Received a cash award of \$200 and a certificate  
Sean Loken, Wishek School District , Solar Engine Applications  
Isaiah Bender, Sawyer School District , What Fuel Works?

### **American Society of Photogrammetry and Remote Sensing, St. Louis Region**

Project in the Field of Geospatial Mapping or Earth Science

1 Winner: Junior Division : Received a cash award of \$50 and a certificate  
Eric Spilman, Mandan School District , Impact of Sun's Angle on Solar Panels

### **American Society of Photogrammetry and Remote Sensing, St. Louis Region**

Project in the Field of Geospatial Mapping or Earth Science

1 Winner: Senior Division : Received a cash award of \$50 and a certificate  
Gage Metzen, Hankinson School District , Aquatic Plants: Today's Solution to River Pollution

### **American Meteorological Society**

Project Related to Meteorology

2 Winners: Junior or Senior Division : Received A Certificate

Erin Haase, Ellendale School District , And the Forecast Is....

Colton Lund, Sawyer School District , Balloon Temperature

### **Association for Women Geoscientists**

Project Related to Geosciences

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

One Year Membership To The AWG North Dakota Chapter

Kelsey Gaukler, Hankinson School District , The Hydrological Assessment of Area Lakes

### **National Oceanic & Atmospheric Administration**

Project Related to Improved Understanding of The Earth's Processes

1 Winner: Junior Division : Received A Certificate And A Medallion

Cody Mauch, Hankinson School District , The Effects of Weed Extracts on the Growth of Glycine  
max

### **North Dakota Geological Society**

Project in Field of Geology or Earth Science

1 Winner: Junior Division : Received A Cash Award Of \$50 And A Certificate

Cody Mauch, Hankinson School District , The Effects of Weed Extracts on the Growth of Glycine  
max

### **North Dakota Geological Society**

Project in Field of Geology or Earth Science

1 Winner: Senior Division : Received A Cash Award Of \$50 And A Certificate

Alexander Spilman, Mandan School District , Study of TENORM Deposits in Oil Field Equipment

## **Energy/Power/Electricity**

### **Ottertail Power Company**

Project Related to Energy or Electricity

3 Winners: Senior Division : Received A Cash Award Of \$50 And A Certificate

Hunter Pinke, Wishek School District , Which Type of Glass Holds and Resists Heat Most  
Efficiently?

Dre Steinwehr, Hankinson School District , The Usage of Polyphenol and Spinosad Compounds as  
Biopesticides

Preston Miller, Sawyer School District , A New Source

### **Ottertail Power Company**

Project Related to Energy or Electricity

2 Winners: Junior Division : Received A Cash Award Of \$50 And A Certificate

Alec Stroh, Kidder Co. Tappen School District , Making Energy with Coins

Eric Spilman, Mandan School District , Impact of Sun's Angle on Solar Panels

## **Xcel Energy**

Project Related to Energy or Electricity

3 Winners: Junior Division : Received A Cash Award Of \$25 And A Certificate

Zoey Reyna, Trenton School District , Power Of The Wind

Alec Stroh, Kidder Co. Tappen School District , Making Energy with Coins

Eric Spilman, Mandan School District , Impact of Sun's Angle on Solar Panels

## **Xcel Energy**

Project Related to Energy or Electricity

3 Winners: Senior Division : Received A Cash Award Of \$25 And A Certificate

Jasmine Kreft, Trinity Christian School District , The Evolution Of Alternative Fuel Production  
Derived From Invasive Eurasian Milfoil

Dre Steinwehr, Hankinson School District , The Usage of Polyphenol and Spinosad Compounds as  
Biopesticides

Preston Miller, Sawyer School District , A New Source

## **MDU Resources Group, Inc.**

Project Related to Energy or Electricity

3 Winners: Senior Division : Received A Cash Award Of \$25 And A Certificate

Max Freed, Trinity Christian School District , Decomposing Energy

Dre Steinwehr, Hankinson School District , The Usage of Polyphenol and Spinosad Compounds as  
Biopesticides

Preston Miller, Sawyer School District , A New Source

## **MDU Resources Group, Inc.**

Project Related to Energy or Electricity

3 Winners: Junior Division : Received A Cash Award Of \$25 And A Certificate

Spencer Green, Oak Grove School District , Crystal Radio Signal Strength

Alec Stroh, Kidder Co. Tappen School District , Making Energy with Coins

Eric Spilman, Mandan School District , Impact of Sun's Angle on Solar Panels

## **Engineering**

### **UND Department of Chemical Engineering**

Project in the Chemical Engineering Category

1 winner: Junior Division : Received a cash award of \$50 and a certificate

Alec Stroh, Kidder Co. Tappen School District , Making Energy with Coins

### **UND Department of Chemical Engineering**

Project in the Chemical Engineering Category

1 winner: Senior Division : Received a cash award of \$50 and a certificate

Alexander Spilman, Mandan School District , Study of TENORM Deposits in Oil Field Equipment

### **UND Department of Civil Engineering**

Project in the Civil Engineering Category

1 winner: Junior Division : Received a cash award of \$25 and a certificate

Dale Spilman, Mandan School District , Effective Treatment of Ammonia in Wastewater

### **UND Department of Civil Engineering**

Project in the Civil Engineering Category

1 winner: Senior Division : Received a cash award of \$25 and a certificate

Sarah Telehey, Trinity Christian School District , The Trouble With Typha Latifolia

### **UND Department of Electrical Engineering**

Project in the Electrical Engineering Category

1 winner: Junior Division : Received a cash award of \$50 and a certificate

Rory Waliser, Lisbon School District , Magnetic Rifle!

### **UND Department of Electrical Engineering**

Project in the Electrical Engineering Category

1 winner: Senior Division : Received a cash award of \$50 and a certificate

Preston Miller, Sawyer School District , A New Source

### **UND Department of Mechanical Engineering**

Project in the Mechanical Engineering Category

1 winner: Junior Division : Received a cash award of \$50 and a certificate

Juliann Spilman, Mandan School District , Error Anaysis: The Math of Mistakes

### **UND Department of Mechanical Engineering**

Project in the Mechanical Engineering Category

1 winner: Senior Division : Received a cash award of \$50 and a certificate

Eva Byerley, Ellendale School District , Dig the Force

### **UND School of Engineering & Mines**

Project Related to Engineering

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

Eric Spilman, Mandan School District , Impact of Sun's Angle on Solar Panels

### **UND School of Engineering & Mines**

Project Related to Engineering

1 Winner: Senior Division : Received a cash award of \$200 and a certificate

Jasmine Kreft, Trinity Christian School District , The Evolution Of Alternative Fuel Production

Derived From Invasive Eurasian Milfoil

### **IEEE Red River Valley Section**

Project in Electrical Engineering

1 Winner: Senior Division : Received a cash award of \$50 and a certificate

Sean Loken, Wishek School District , Solar Engine Applications

### **IEEE Red River Valley Section**

Project in Electrical Engineering

1 Winner: Junior Division : Received a cash award of \$50 and a certificate

Spencer Green, Oak Grove School District , Crystal Radio Signal Strength

### **ASM Materials Education Foundation**

Project in Materials Engineering

1 Winner: Junior or Senior Division : Received A Medallion And A Certificate

Adam Hulm, Strasburg School District , Which Fabric Retains the Most Water?

### **National Society of Professional Engineers**

Project in Engineering Category

1 Winner: Junior or Senior Division : Received A Certificate And A Lapel Pin

Tyler Toepke-Floyd, Wishek School District , Emmission Reduction Through Solvent Polarity

### **Society of Automotive Engineers**

Project in Mobility Engineering

1 Winner: Junior Division : Received A Cash Award Of \$100 And A Certificate

Wesley Kemp, Valley/Edinburgh School District , The Friction Factor

### **Society of Automotive Engineers**

Project in Mobility Engineering

1 Winner: Senior Division : Received A Cash Award Of \$100 And A Certificate

Tyler Toepke-Floyd, Wishek School District , Emmission Reduction Through Solvent Polarity

## **Environmental Science**

### **UND School of Engineering & Mines**

Project in Energy or Environmental Science Categories

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

Gage Metzen, Hankinson School District , Aquatic Plants: Today's Solution to River Pollution

### **UND School of Engineering & Mines**

Project in Energy or Environmental Science Categories

1 Winner: Junior Division : Received a cash award of \$50 and a certificate

Zoey Reyna, Trenton School District , Power Of The Wind

### **Association of North Dakota Geographers**

Project in the Field of Human-Environment Interaction

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

Alexander Spilman, Mandan School District , Study of TENORM Deposits in Oil Field Equipment

### **Ricoh Corporation**

Project Related to Environmentally Friendly Businesses

1 Winner: Senior Division : Received A Certificate

Hunter Pinke, Wishek School District , Which Type of Glass Holds and Resists Heat Most Efficiently?

### **Coalition for Conservation & Environmental Education**

Outstanding Environmental Project

1 Winner: Senior Division : Received A Cash Award Of \$50 A Large Purple Rosette Ribbon And A Certificate

Hunter Pinke, Wishek School District , Which Type of Glass Holds and Resists Heat Most Efficiently?

### **Coalition for Conservation & Environmental Education**

Outstanding Environmental Project

1 Winner: Junior Division : Received A Cash Award Of \$50 A Large Purple Rosette Ribbon And A Certificate

Abbey Simonson, Oak Grove School District , What's in the Wetlands?



### **NDSSEF Association**

Project Related to Environmental Pollution and/or Remediation

1 Winner: Junior Division : Received A Cash Award of \$50 And A Certificate

Dale Spilman, Mandan School District , Effective Treatment of Ammonia in Wastewater

### **NDSSEF Association**

Project Related to Environmental Pollution and/or Remediation

1 Winner: Senior Division : Received A Cash Award of \$50 And A Certificate

Tyler Toepke-Floyd, Wishek School District , Emission Reduction Through Solvent Polarity

## **Human Nutrition/Nursing**

### **UND Department of Nutrition & Dietetics**

Project in the Area of Nutrition and Food Science

1 winner: Junior Division : Received a cash award of \$25 and a certificate

Martin Krump, Hankinson School District , A Comparison of Cheese Production of Swiss Dairy Goats

### **UND Department of Nutrition & Dietetics**

Project in the Area of Nutrition and Food Science

1 winner: Senior Division : Received a cash award of \$50 and a \$250 scholarship and a certificate

Jennifer Riemann, Hankinson School District , The Contamination Levels of Ground Beef and the Preserving Abilities of Tannins

### **UND College of Nursing & Professional Disciplines**

Project Related to Nursing

2 winners: Junior Division : Received a cash award of \$100 and a certificate

Dusti Seidel, Trenton School District , How's It Affected?

Camryn Schall, Schroeder School District , Osteoporosis

### **UND College of Nursing & Professional Disciplines**

Project Related to Nursing

2 winners: Senior Division : Received a cash award of \$200 and a certificate

Gracia Eder, Trinity Christian School District , Do You Trust Your Soap For Blood Sugar Testing?

Barbara Senger, Mandan School District , Lose the Ooze! How Effective is "Whizzer" on Cleaning Wrestling Mats?

### **U.S. Department of Health and Human Service**

Project Promoting Healthy Life Style

1 Winner: Junior or Senior Division : Received A Certificate And A Medallion

Wyatt Limke, Berthold School District , Effects of Caffeine on Reaction Time

### **UND Department of Psychology**

Project in the Psychology or Behavioral Science Category

1 winner: Junior Division : Received a cash award of \$100 and a certificate

Isabella Froehling, Wishek School District , Stand Straight

### **UND Department of Psychology**

Project in the Psychology or Behavioral Science Category

1 winner: Senior Division : Received a cash award of \$100 and a certificate

Kate Fox, Wing School District , Which Scents Make Sense?

## Humanities/Social/Behavioral Sciences

### **UND Department of Sociology**

Project in the Social Science Category

1 winner: Junior Division : Received a cash award of \$150 and a certificate

Mya Vetter, Linton School District , Men vs Women: A Statistical Analysis of Marketing

### **UND Department of Sociology**

Project in the Social Science Category

1 winner: Senior Division : Received a cash award of \$150 and a certificate

Zachary Kringstad, Valley/Edinburg School District , The Effects of Exercise on Learning and Memory Patterns in Mice\*

### **UND College of Arts & Sciences**

Project in the Fields of Social or Behavioral Science

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

Wyatt Wilm, Hankinson School District , The Distraction Tendencies of Humans

### **UND College of Arts & Sciences**

Project in the Fields of Social or Behavioral Science

1 Winner: Junior Division : Received a cash award of \$50 and a certificate

Toby Zikmund, Park River School District , The Effects of Music on Hand-Eye Coordination

### **Virginia George Inheritance Fund**

Project in the Fields of Social or Behavioral Science

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

Kelsey Guttormson, Tioga School District , Mind Over Matter

### **Virginia George Inheritance Fund**

Project in the Fields of Social or Behavioral Science

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

Chase Bader, Wishek School District , How Many Numbers Can You Remember?

### **American Psychological Association**

Project Related to Psychology

1 Winner: Junior or Senior Division : Received A Certificate

Zachary Kringstad, Valley/Edinburg School District , The Effects of Exercise on Learning and Memory Patterns in Mice\*

## ISEF Alumni

### **ISEF Alumni**

Project as Determined By ISEF Judges

1 Winner: Junior or Senior Division : Received A Cash Award Of \$200 And A Certificate

Grady Mauch, Hankinson School District , The Fungicidal Attributes of Invasive Plants on Soybeans

### **ISEF Alumni**

Project as Determined By ISEF Judges

1 Winner: Junior or Senior Division : Received A Cash Award Of \$100 And A Certificate

Dre Steinwehr, Hankinson School District , The Usage of Polyphenol and Spinosad Compounds as Biopesticides

## Life Sciences

### **UND Department of Biochemistry and Molecular Biology**

Project in the Area of Life Sciences

2 winners: Junior Division : Received a cash award of \$50 and a certificate

Betsy Asp, Hankinson School District , The Antibiotic Potential of Natural Herbs

Sadie Schaubel, Trenton School District , Mr. Clean?

### **UND Department of Biochemistry and Molecular Biology**

Project in the Area of Life Sciences

2 winners: Senior Division : Received a cash award of \$50 and a certificate

Grady Mauch, Hankinson School District , The Fungicidal Attributes of Invasive Plants on Soybeans

Dre Steinwehr, Hankinson School District , The Usage of Polyphenol and Spinosad Compounds as Biopesticides

### **UND Department of Biology**

Project in the Biology Category

1 winner: Junior Division : Received a cash award of \$50 and a certificate

Betsy Asp, Hankinson School District , The Antibiotic Potential of Natural Herbs

### **UND Department of Biology**

Project in the Biology Category

1 winner: Senior Division : Received a cash award of \$100 and a \$300 scholarship and a certificate

Grady Mauch, Hankinson School District , The Fungicidal Attributes of Invasive Plants on Soybeans

### **North Dakota Veterinary Medical Association**

Project Related to Veterinary Medicine

1 Winner: Senior Division : Received A Cash Award Of \$100 And A Certificate

Paige Schmidt, Kidder Co. Tappen School District , Artificially Inseminated or Bull Bred (2)

### **North Dakota Veterinary Medical Association**

Project Related to Veterinary Medicine

1 Winner: Senior Division : Received A Cash Award Of \$75 And A Certificate

Devarshi Patel, Red River School District , Protective Role of Selenium Against Methyl-mercury Poisoning in House Crickets (*Acheta domesticus*)

### **North Dakota Veterinary Medical Association**

Project Related to Veterinary Medicine

1 Winner: Junior Division : Received A Cash Award Of \$25 And A Certificate  
Ashley Segal, Oak Grove School District , Inside a Horses Mouth

### **North Dakota Veterinary Medical Assn. Auxiliary**

Project Related to Veterinary Medicine

1 Winner: Junior Division : Received A Cash Award Of \$50 A Certificate And A Pin  
Martin Krump, Hankinson School District , A Comparison of Cheese Production of Swiss Dairy Goats

### **NDSSEF Association**

Project in Botany

1 Winner: Junior Division : Received A Cash Award of \$50 And A Certificate  
Cody Mauch, Hankinson School District , The Effects of Weed Extracts on the Growth of Glycine max

### **NDSSEF Association**

Project in Botany

1 Winner: Senior Division : Received A Cash Award of \$50 And A Certificate  
Gage Metzen, Hankinson School District , Aquatic Plants: Today's Solution to River Pollution

## **Math/Computer Science**

### **UND Department of Computer Science**

Project in the Computer Science Category

1 winner: Junior Division : Received a cash award of \$50 and a certificate  
Jackson Holm, Schroeder School District , Educational Video Games\*

### **UND Department of Computer Science**

Project in the Computer Science Category

1 winner: Senior Division : Received a cash award of \$50 and a certificate  
Holly Krumm, Strasburg School District , A Mathematical Analysis of Bach's Fugues

### **UND Department of Mathematics**

Project in the Mathematics Category

1 winner: Junior Division : Received a cash award of \$50 and a certificate  
Eric Spilman, Mandan School District , Impact of Sun's Angle on Solar Panels

### **UND Department of Mathematics**

Project in the Mathematics Category

1 winner: Senior Division : Received a cash award of \$100 and a \$500 scholarship and a certificate  
Holly Krumm, Strasburg School District , A Mathematical Analysis of Bach's Fugues

### **Intel Excellence In Computer Science**

Project in Computer Science Category

1 Winner: Senior Division : Received A Cash Award Of \$200 And A Certificate  
Matthew Schaeftbauer, Strasburg School District , Programming for Students

## **Mu Alpha Theta**

Project Involving Modern Mathematics

1 Winner: Senior Division : Received A Certificate

Eva Byerley, Ellendale School District , Dig the Force

## **Medicine/Health**

### **UND Department of Anatomy**

Project Related to Medical or Health Sciences

1 winner: Junior Division : Received a cash award of \$100 and a certificate

Betsy Asp, Hankinson School District , The Antibiotic Potential of Natural Herbs

### **UND Department of Anatomy**

Project Related to Medical or Health Sciences

1 winner: Senior Division : Received a cash award of \$100 and a certificate

Tayson O'Hara, Hankinson School District , The Antimicrobial Effect of Deciduous Tree Bark

### **UND Department of Pathology**

Project Related to Medical or Health Sciences

2 winners: Junior Division : Received a cash award of \$100 and a certificate

Mya Steinwehr, Hankinson School District , The Effects of Natural Bactericides on Green Beans

Riley McLean, Bismarck Cathedral School District , Ice Please?

### **UND Department of Pathology**

Project Related to Medical or Health Sciences

2 winners: Senior Division : Received a cash award of \$100 and a certificate

Teri Loll, Hankinson School District , The Effects of Antacids on Acidity and the Growth of E. coli

Barbara Senger, Mandan School District , Lose the Ooze! How Effective is "Whizzer" on Cleaning Wrestling Mats?

### **UND School of Medicine & Health Sciences**

Project Related to Medical or Health Sciences

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

Jennifer Riemann, Hankinson School District , The Contamination Levels of Ground Beef and the Preserving Abilities of Tannins

### **UND School of Medicine & Health Sciences**

Project Related to Medical or Health Sciences

1 Winner: Junior Division : Received a cash award of \$50 and a certificate

Lauren Cain, Oak Grove School District , Wells and Well Being

### **UND School of Medicine & Health Sciences**

Project Related to Medical or Health Sciences

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

Martin Krump, Hankinson School District , A Comparison of Cheese Production of Swiss Dairy Goats

### **UND School of Medicine & Health Sciences**

Project Related to Medical or Health Sciences

1 Winner: Senior Division : Received a cash award of \$200 and a certificate

Brennen Boll, Hankinson School District , The Effects of Various Toothpaste on Streptococci Bacteria

### **North Dakota Academy of Family Physicians**

Project Related to Medicine

1 Winner: Senior Division : Received A Cash Award Of \$50 And A Certificate

Kelsey Guttormson, Tioga School District , Mind Over Matter

### **North Dakota Society for Clinical Laboratory**

Project Related to Laboratory Medicine

1 Winner: Senior Division : Received A Cash Award Of \$50 And A Certificate

Wyatt Limke, Berthold School District , Effects of Caffeine on Reaction Time

### **North Dakota Society for Clinical Laboratory**

Project Related to Laboratory Medicine

1 Winner: Junior Division : Received A Cash Award Of \$50 And A Certificate

Kristen Larson, Park River School District , Grooming and Heart Rate

### **Kingsbury Outstanding Health Science Project**

Outstanding Project Related to Health Sciences

1 Winner: Junior Division : Received A Cash Award of \$50 and a certificate

Betsy Asp, Hankinson School District , The Antibiotic Potential of Natural Herbs

## **Microbiology/Pharmacology**

### **UND Department of Microbiology / Immunology**

Project Related to Microbiology / Immunology or Infectious Disease

2 winners: Junior Division : Received a cash award of \$50 and a certificate

Gracie Mosher, Hankinson School District , The Comparison of Dishwashing Liquids

Lakin Mauch, Hankinson School District , The Agricultural Effects of Natural Products on Wheat

### **UND Department of Microbiology / Immunology**

Project Related to Microbiology / Immunology or Infectious Disease

2 winners: Senior Division : Received a cash award of \$100 and a certificate

Jennifer Riemann, Hankinson School District , The Contamination Levels of Ground Beef and the Preserving Abilities of Tannins

Brennen Boll, Hankinson School District , The Effects of Various Toothpaste on Streptococci Bacteria

### **UND Department of Pharmacology, Physiology & Therapeutics**

Project Related to Medical or Health Sciences

1 winner: Junior Division : Received a cash award of \$100 and a certificate

Bailey Beneda, Fordville/Lankin School District , Can Exercise Affect Your Brain?

### **UND Department of Pharmacology, Physiology & Therapeutics**

Project Related to Medical or Health Sciences

1 winner: Senior Division : Received a cash award of \$100 and a certificate

Kelsey Gaukler, Hankinson School District , The Hydrological Assessment of Area Lakes

### **North Dakota Pharmacists Association**

Project in Field of Pharmacology

1 Winner: Junior Division : Received A Cash Award Of \$75 And A Certificate  
Sienna Smith, Schreoder, GF School District , Are You Hyped Up?

### **North Dakota Pharmacists Association**

Project in Field of Pharmacology

1 Winner: Senior Division : Received A Cash Award Of \$100 And A Certificate  
Tayson O'Hara, Hankinson School District , The Antimicrobial Effect of Deciduous Tree Bark

## **Navy**

### **United States Navy**

Project (All Categories Considered)

3 Winners: Senior Division : Received An Educational Recognition Award Valued At \$75 A  
Medallion And A Certificate

Dre Steinwehr, Hankinson School District , The Usage of Polyphenol and Spinosad Compounds as  
Biopesticides

Grady Mauch, Hankinson School District , The Fungicidal Attributes of Invasive Plants on Soybeans

Gage Metzen, Hankinson School District , Aquatic Plants: Today's Solution to River Pollution

### **United States Navy**

Project (All Categories Considered)

3 Winners: Junior Division : Received A Medallion And A Certificate

Mya Steinwehr, Hankinson School District , The Effects of Natural Bactericides on Green Beans

Dale Spilman, Mandan School District , Effective Treatment of Ammonia in Wastewater

Wesley Kemp, Valley/Edinburgh School District , The Friction Factor

## **Physics**

### **UND Department of Physics & Astrophysics Physics**

Project in the Physics Category

1 winner: Junior Division : Received a cash award of \$100 and a certificate

Wesley Kemp, Valley/Edinburgh School District , The Friction Factor

### **UND Department of Physics & Astrophysics Physics**

Project in the Physics Category

1 winner: Senior Division : Received a cash award of \$100 and a \$500 scholarship and a certificate

Eva Byerley, Ellendale School District , Dig the Force

### **United States Metric Association**

Project Using Metric System for Measurements

5 Winners: Junior Division : Received A Certificate

Kerstin Grubb, Tioga School District , Milk Or Plastic?

Wesley Kemp, Valley/Edinburgh School District , The Friction Factor

Jordan Saxerud, Lisbon School District , Stifling Surges

Rory Waliser, Lisbon School District , Magnetic Rifle!

Preston Degerman, Oak Grove School District , Does the Surface Affect the Splat?

### **North Dakota Physics Teachers**

Project in Area of Physics or Physical Science

1 Winner: Senior Division : Received A Cash Award Of \$25 And A Certificate

Tony Krautbauer, Hankinson School District , The Effects of Flour on Combustion and Shelf Life of Bread

### **North Dakota Physics Teachers**

Project in Area of Physics or Physical Science

1 Winner: Junior Division : Received A Cash Award Of \$25 And A Certificate

Preston Degerman, Oak Grove School District , Does the Surface Affect the Splat?

## **Sweepstakes**

### **UND College of Arts & Sciences**

Outstanding Math or Science Project

1 Winner (must be a female exhibitor): Senior Division : Received a cash award of \$100 and a certificate

Jasmine Kreft, Trinity Christian School District , The Evolution Of Alternative Fuel Production Derived From Invasive Eurasian Milfoil

### **UND College of Arts & Sciences**

Outstanding Math or Science Project

1 Winner (must be a female exhibitor): Junior Division : Received a cash award of \$50 and a certificate

Mya Steinwehr, Hankinson School District , The Effects of Natural Bactericides on Green Beans

### **UND Office of Research & Economic Development**

Project exhibiting Exceptional Creativity

1 winner: Junior or Senior Division : Received a \$500 gift certificate to the UND Bookstore and a certificate

Bailey Hagen, Trenton School District , Fishy Medicine

### **Yale Science and Engineering Association**

Project in Computer Science, Engineering, Physics, or Chemistry

1 Winner: 11Th Grader Division : Received A Medallion And A Certificate

Tyler Toepke-Floyd, Wishek School District , Emmission Reduction Through Solvent Polarity

## **Water Quality**

### **Water Environment Federation**

Project Related to Water Quality or Water Conditions

1 Winner: Junior or Senior Division : Received A Certificate

Jasmine Kreft, Trinity Christian School District , The Evolution Of Alternative Fuel Production Derived From Invasive Eurasian Milfoil

### **American Water Works Association**

Project Related to Drinking Water Quality

1 Winner: Junior Division : Received A Cash Award Of \$75 And A Certificate

Brandon Skjoiten, Hankinson School District , A Chemical and Biological Analysis of Lake Elsie



### **American Water Works Association**

Project Related to Drinking Water Quality

1 Winner: Senior Division : Received A Cash Award Of \$75 And A Certificate

Kelsey Gaukler, Hankinson School District , The Hydrological Assessment of Area Lakes

### **North Dakota Water Environment Association**

Project Related to Water Quality

1 Winner: Senior Division : Received A Cash Award Of \$75 And A Plaque

Gage Metzen, Hankinson School District , Aquatic Plants: Today's Solution to River Pollution

### **North Dakota Water Environment Association**

Project Related to Water Quality

1 Winner: Junior Division : Received A Cash Award Of \$75 And A Plaque

Dale Spilman, Mandan School District , Effective Treatment of Ammonia in Wastewater

### **North Dakota Rural Water Systems Association**

Project Related to Water Quality

1 Winner: Senior Division : Received A Cash Award Of \$100 And A Plaque

Brenna Ketterling, Wishek School District , The Effects of Soil Type and Fertilizer on Water Quality

## **Junior Division Place Winners**

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

### **Northwest Region**

1<sup>st</sup> Place - Grace Dragseth, East Fairview School District , Going Green With Insulation

2<sup>nd</sup> Place - Greta Eder, Trinity Christian School District , Temperature Effects On Durum Germination

3<sup>rd</sup> Place - Dusti Seidel, Trenton School District , How's It Affected?

4<sup>th</sup> Place - Zoey Reyna, Trenton School District , Power Of The Wind

### **North Central Region**

1<sup>st</sup> Place - Alivia Schweitzer, Berthold School District , Reaction Time: What Age is Faster?

2<sup>nd</sup> Place - Madi Kraft, Sawyer School District , Is There Light in Your Gelatin?

3<sup>rd</sup> Place - Kaylee Lybeck, Leeds School District , Effects of Medicines on Plant Growth

4<sup>th</sup> Place - Erin Jorgenson, Leeds School District , How Permanent are Permanent Markers?

### **Northeast Region**

1<sup>st</sup> Place - Wesley Kemp, Valley/Edinburgh School District , The Friction Factor

2<sup>nd</sup> Place - Nick Whaley, Park River School District , Erosion Explosion

3<sup>rd</sup> Place - Camryn Schall, Schroeder School District , Osteoporosis

4<sup>th</sup> Place - Sienna Smith, Schroeder, GF School District , Are You Hyped Up?

### **Southwest Central Region**

1<sup>st</sup> Place - Eric Spilman, Mandan School District , Impact of Sun's Angle on Solar Panels

2<sup>nd</sup> Place - Riley McLean, Bismarck Cathedral School District , Ice Please?

3<sup>rd</sup> Place - Brooklyn Vollmer, Wing School District , Cover Crop Chaos

4<sup>th</sup> Place - Mya Vetter, Linton School District , Men vs Women: A Statistical Analysis of Marketing

### **Southeast Central Region**

1<sup>st</sup> Place - Cole Ketterling, Wishek School District , Liquid Fertilizers Effect on Corn

2<sup>nd</sup> Place - Alec Stroh, Kidder Co. Tappen School District , Making Energy with Coins

3<sup>rd</sup> Place - Kadey Holm, Ellendale School District , Wipe It all Up!

4<sup>th</sup> Place - Chase Bader, Wishek School District , How Many Numbers Can You Remember?

### **Southeast Region**

1<sup>st</sup> Place - Preston Degerman, Oak Grove School District , Does the Surface Affect the Splat?

2<sup>nd</sup> Place - Betsy Asp, Hankinson School District , The Antibiotic Potential of Natural Herbs

3<sup>rd</sup> Place - Martin Krump, Hankinson School District , A Comparison of Cheese Production of Swiss Dairy Goats

4<sup>th</sup> Place - Ashley Segal, Oak Grove School District , Inside a Horses Mouth

## **Junior Division Sweepstakes Winners**

The first place (Sweepstakes) winner received a gold state plaque and a \$100 cash award from the University of North Dakota Graduate School.

The second place (Sweepstakes Runner-Up) winner received a silver plaque and a \$50 cash award from the University of North Dakota Graduate School.

### **Junior Division 1<sup>st</sup> Place – Sweepstakes Winner**

Mya Steinwehr, Hankinson School District , The Effects of Natural Bactericides on Green Beans

### **Junior Division 2<sup>nd</sup> Place - Sweepstakes Runner-Up**

Dale Spilman, Mandan School District , Effective Treatment of Ammonia in Wastewater

## Senior Division Place Winners

All first and second place winners received a gold plaque and a hooded sweatshirt and will advance to the ISEF in Phoenix Arizona in May and will exhibit their project.

All third and fourth place winners received a silver plaque and are alternates to the ISEF in Phoenix Arizona in May but will not exhibit their project unless a first or second place winner cannot attend.

### Northwest Region

1<sup>st</sup> Place - Jasmine Kreft, Trinity Christian School District , The Evolution Of Alternative Fuel Production Derived From Invasive Eurasian Milfoil

2<sup>nd</sup> Place - Sarah Telehey, Trinity Christian School District , The Trouble With Typha Latifolia

3<sup>rd</sup> Place - Kelsey Guttormson, Tioga School District , Mind Over Matter

4<sup>th</sup> Place - Bailey Hagen, Trenton School District , Fishy Medicine

### North Central Region

1<sup>st</sup> Place - Wyatt Limke, Berthold School District , Effects of Caffeine on Reaction Time

2<sup>nd</sup> Place - Mara Roteliuk, Sawyer School District , E. Coli vs. Disinfectants

3<sup>rd</sup> Place - Isaiah Bender, Sawyer School District , What Fuel Works?

(1<sup>st</sup> Place winner is the only presenter from region at ISEF.)

### Northeast Region

1<sup>st</sup> Place - Devarshi Patel, Red River School District , Protective Role of Selenium Against Methyl-mercury Poisoning in House Crickets (*Acheta domesticus*)

2<sup>nd</sup> Place - Shelby Cyr, Valley/Edinburg School District , The Effects of Radiation on DNA\*

3<sup>rd</sup> Place - Taylor Anderson, Lakota School District , Are You Leading Me On?

4<sup>th</sup> Place - Danielle Durand, Valley/Edinburg School District , The Effect of Increasing Radiation on the Growth of Bacteria

### Southwest Central Region

1<sup>st</sup> Place - Kellie Tougas, Strasburg School District , FORENSICS: Testing for Lead

2<sup>nd</sup> Place - Matthew Schaeffbauer, Strasburg School District , Programming for Students

3<sup>rd</sup> Place - Eileen Spilman, Mandan School District , Realtime Proxy Analytical Method for Chloride in Water

4<sup>th</sup> Place - Alexander Spilman, Mandan School District , Study of TENORM Deposits in Oil Field Equipment

5<sup>th</sup> Place – Barbara Senger, Mandan School District, Lose the Ooze! How effective is ‘Whizzer’ on Cleaning Wrestling Mats?

(3<sup>rd</sup> Place winner is also a presenter from region at ISEF)

### Southeast Central Region

1<sup>st</sup> Place - Tyler Toepke-Floyd, Wishek School District , Emmission Reduction Through Solvent Polarity

2<sup>nd</sup> Place - Sean Loken, Wishek School District , Solar Engine Applications

3<sup>rd</sup> Place - Eva Byerley, Ellendale School District , Dig the Force

4<sup>th</sup> Place - Hunter Pinke, Wishek School District , Which Type of Glass Holds and Resists Heat Most Efficiently?

## **Southeast Region**

1<sup>st</sup> Place - Carter Mauch, Hankinson School District , The Effects of Noxious Weeds on Navy Beans

2<sup>nd</sup> Place - Tayson O'Hara, Hankinson School District , The Antimicrobial Effect of Deciduous Tree Bark

3<sup>rd</sup> Place - Jennifer Riemann, Hankinson School District , The Contamination Levels of Ground Beef and the Preserving Abilities of Tannins

4<sup>th</sup> Place - Teri Loll, Hankinson School District , The Effects of Antacids on Acidity and the Growth of E. coli

## **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 Friskop Family, a \$500 cash award from the University of North Dakota Vice President of Research and Economic Development, and a \$12,000 scholarship (\$3000 per year for four years) to the University of North Dakota and will advance to the ISEF in Phoenix Arizona in May and will exhibit his/her project.

The second place (sweepstakes runner-up) winner received a gold state plaque, a hooded sweatshirt, a \$250 cash award from the University of North Dakota Vice President of Research and Economic Development, and a \$10,000 scholarship (\$2500 per year for four years) to the University of North Dakota and will advance to ISEF in Phoenix Arizona in May and will exhibit his/her project.

The third place (sweepstakes 2<sup>nd</sup> runner-up) winner received a state plaque, a hooded sweatshirt and a \$150 cash award from the University of North Dakota Graduate School and will advance to the ISEF in Phoenix Arizona in May and will exhibit his/her project.

### **Senior Division – 1<sup>st</sup> Place – Sweepstakes Winner**

Dre Steinwehr, Hankinson School District , The Usage of Polyphenol and Spinosad Compounds as Biopesticides

### **Senior Division – 2<sup>nd</sup> Place – Sweepstakes Runner-Up**

Grady Mauch, Hankinson School District , The Fungicidal Attributes of Invasive Plants on Soybeans

### **Senior Division – 3<sup>rd</sup> Place – Sweepstakes Second Runner-Up**

Gage Metzen, Hankinson School District , Aquatic Plants: Today's Solution to River Pollution