

INTERNATIONAL SCIENCE AND ENGINEERING FAIR: selected to go directly to international competition in Phoenix, Arizona May 8-14, 2005

FINALISTS:

Twin Cities:

1003T: **Heidi Chun**, Relating Distance Between Lion Prides with Need for Male Protection

1071T: **Zachary Howland**, Ferris Wheel Gone Chaotic: Fluid Dynamics within a Lorenzian Water Wheel

Western Suburbs:

1015W: **Kyrstin Underbakke**, Effect of Increased Fructose-2, 6-bisphosphate on the Akt Levels of 293 Cells

1062W: **Janet Li**, Characterization of Bone Marrow-Derived Multipotent Stem Cells

ALTERNATES:

Twin Cities:

1012T: **Nada Abou-Karam**, Do Neem Seed Extracts Inhibit Aflatoxin Production Without Inhibiting Aspergillus flavus Growth?

1040T: **Kyle Randolph**, Determining Payload Mass in a "Box-Kite" Tumbleweed Rover

Western Suburbs:

1014W: **Meredith Percy**, Stabilizing Fluorochrome-labeled Antibodies in Lymphilization with Disaccharide Excipients

1013W: **Andrew Davis**, In Situ Localization of MT# & Associated Proteins in Mouse Brain Tissue

TEAM FINALISTS:

1090S: **Erik Halverson & Kalia Her**, Effects of Human Activity on Minneapolis Waterways

TEAM ALTERNATES:

1092W: **Colin Drummond & Daniel McKeon**, Silicon Metal-Insulator-Semiconductor Field-Effect...

SPONSORS AWARDS: Winners must be present at the Awards Ceremony. Awarded to the best projects that represent TCRSF to the sponsors.

Bronze Level: Ribbon

General E. W. Rawlings Chapter, Air Force Association:

8100T: **Geneveive Bettin**, Do Cats Use One Paw More Than the Other?

Twin Cities Catering:

6006W: **Mary Yeung**, Ripening Fruit

Silver Level: Plaque

Alliant Techsystems:

1033T: **Tyler Bonewell**, Submarine Swim Suits: A Correlation of Material and Time

Ecolab:

1050W: **Kyra Underbakke**, Allelopathic Effects of Rhamnus cathartica on Raphanus sativus Germination

Gold Level: Plaque

The Medtronic Foundation

1060T: **Ellie Dorfman**, Effects of Various Music Genres on Heart Rate During Physical Exertion

St. Paul Youth Fund

1025S: **Jackie Jones**, Fading Colors

Ricoh Copiers/Metro Sales

8090S: **Linnea Holman**, Improving My Volleyball Serve With Physics

Platinum Level: Plaque:

3M Foundation

1024T: **Trevor Janke**, Effects of Thermal Energy on Electrolytic & Non-electrolytic Solutions

University of Minnesota

7017W: **Briana Smith**, Are They Really Smarter? Gender & Cognitive Complexity

DISCOVERY JUNIOR SCIENCE COMPETITION: Top students from 6th, 7th and 8th grades are nominated to the next level of competition, and will receive a pin and a certificate.

Grade 6:

- 6001S: **Elianna Bier**, Candy or Medicine?
 6019W: **Elaina Hamann**, Bridges
 6023W: **Calvin Brookman**, What is the Effect of Road Salt on Our Ecosystem?
 6040W: **Daniel Wratkowski**, Conductivity of Water
 6046T: **Charlie Berg & Eric Young**, Foil the Oil

Grade 7:

- 7003S: **Nate Causey**, Effect of Circadian Rhythm on Junior High Students
 7004S: **Linnea Dahlquist**, Do Teen Girls Rule?
 7019T: **Mary Grogan**, Grapes to Raisins
 7029W: **Michael Juberian**, Does Different Types of Water Affect Plant Growth?
 7045T: **Lauren Gavin**, Hard & Soft Water
 7059W: **Anna Stroncek**, Coin Cleaning
 7069T: **Alissa Ladas**, Bag It or Bust It - Which Brand of Plastic Bags is Stronger?
 7066W: **Ben Flood**, Sonic Freezer
 7080W: **Maggie Dolan**, Raising Blood Glucose
 7088S: **Spencer Perron**, Hand Cleansers
 7096W: **Rebecca Broekhuis**, Experimenting With Mold
 7107W: **Laura LeVoir**, Sound
 7115T: **Michael Schaefer**, Golf Balls
 7119T: **Thomas Winchell**, Conducting of Various Metals
 7121W: **Shane Bari**, Under What Light Conditions Do Danios Eat Best?
 7132T: **Becca Bjorke & Linnea Delmonico**, Stop the Pop

Grade 8

- 8009T: **Daria Kushnir**, How Does Caffeine From Coffee Affect Activity?
 8012S: **Charlotte O'Halloran**, Does Caffeine Affect Blood Pressure at Times of Anxiety
 8022T: **Emily Fitch**, Plant Growth
 8025T: **Nathan Oase**, Best Fertilizer for Your Houseplant
 8031T: **Amanda Broderick**, Stimulant Drinks
 8041T: **Hannah Myott**, What Type of Salt Will Cause an Ice Cube to Melt the Fastest?
 8045T: **Kyleigh Taylor**, Muffin Mania
 8046W: **Laura Ghostley**, Impact Craters
 8056T: **Allison Koram**, What Brand of Paper Towels When Wet is Strongest?
 8071S: **Abigail Wold**, Does Number of Sides Affect Structure Strength?
 8079T: **Marin Parsons**, Hot Lunch: What it Does to Your Teeth

MINNESOTA ACADEMY OF SCIENCE STATE FAIR: Projects selected for competition in St. Paul, April 3-5, 2005.

High School

- 1015W: **Kyrstin Underbakke**, Effect of Increased Fructose-2, 6-bisphosphate on the Akt Levels of 293 Cells
 1062W: **Janet Li**, Characterization of Bone Marrow-Derived Multipotent Stem Cells
 1050W: **Kyra Underbakke**, Allelopathic Effects of Rhamnus cathartica on Raphanus sativus Germination

- 1003T: **Heidi Chun**, Relating Distance Between Lion Prides with Need for Male Protection
- 1012T: **Nada Abou-Karam**, Do Neem Seed Extracts Inhibit Aflatoxin Production Without Inhibiting *Aspergillus flavus* Growth?
- 1014W: **Meredith Percy**, Stabilizing Fluorochrome-labeled Antibodies in Lymphilization with Disaccharide Excipients
- 1013W: **Andrew Davis**, In Situ Localization of MT# & Associated Proteins in Mouse Brain Tissue
- 1011T: **Elizabeth Spafford**, Emotional Interpretation of Music
- 1019W: **Shaina Short**, Effects of Herbivore Damage & Nitrogen Fertilizers on Certain Legumes
- 1007T: **Amanda Leaveck**, The Effect of Background Music on a High School's Ability to Concentrate
- 1009W: **Holly McCullough**, Shut Up & Drive!
- 1020W: **Sharde Thomas**, Effect of Light on Tuberization of Multiple Potato Varieties
- 1024T: **Trevor Janke**, Effects of Thermal Energy on Electrolytic & Non-electrolytic Solutions
- 1029T: **Rami Saikali**, Relationship Between Microprocessor Frequency & Performance
- 1027T: **Zachary Helgeson**, Effects of Overall Computer Performance through RAM Modification
- 1036W: **Christopher Jackson**, Effect of Nitrogen Injection on Moisture Distribution in Cheddar Cheese Blocks
- 1042W: **Matthew Trusheim**, Combining Gel Electrophoresis & a Planar Waveguide
- 1046W: **Rosemary Lelich**, Effects of Resmethnn on Monarch Butterflies & Larvae
- 1045W: **William Inglis**, Distribution & Abundance of Milfoil Weevil in Lake Minnetonka
- 1052W: **Leah Carlson**, Neuroprotective Effects of TUDCA on 6-OHDA-Induced Apoptosis in PC12 Cells
- 1064S: **Nadine Abou-Karam**, Does Low Concentration of Antibiotics to Animal Feed Increase Bacterial Resistance?
- 1063W: **Rachel Voightlander**, Short Term Effect Exercise has on Saliva pH Levels
- 1066T: **Jennifer Kramm**, Contact Solutions: Naughty or Nice on Bacteria
- 1071T: **Zachary Howland**, Ferris Wheel Gone Chaotic: Fluid Dynamics within a Lorenzian Water Wheel
- 1076W: **Tim Underbakke**, Paint to Barrel Match Question for Paintball Markers
- 1079W: **Michael Lew**, Trends in Hybridization of Crappies in a Minnesota Lake
- 1080W: **Meggie Marzec**, Statistical Study of the Host Fish for the Round Pigtoe Mussel
- 1081W: **Amy Pikovsky**, Preferred Temperature, Metabolic Rate & Circadian Rhythm on Snapping Turtles
- 1090S: **Erik Halverson & Kalia Her**, Effects of Human Activity on Minneapolis Waterways
- 1091T: **Sarah Farnes & Megan Roethke**, Chromoskedastics: A Color Analysis Using Densitometry
- 1092W: **Colin Drummond & Daniel McKeon**, Silicon Metal-Insulator-Semiconductor Field-Effect...

Grade 8

- 8001T: **Anne Aamodt**, The Human Mind
- 8004S: **Alicia Bonebright**, Wash Your Hands!
- 8009T: **Daria Kushnir**, How Does Caffeine From Coffee Affect Activity?
- 8011T: **Jenna Mrozinski**, Reaction Time
- 8012S: **Charlotte O'Halloran**, Does Caffeine Affect Blood Pressure at Times of Anxiety
- 8013T: **Samantha Powers**, Optical Illusions
- 8014T: **Joshua Sweeney**, The Dominating Gender
- 8015S: **Kate Underwood**, Effects of TV on Time & Accuracy of a Math Worksheet
- 8019S: **DeSean Wells**, Osmosis of Cheek Cells
- 8022T: **Emily Fitch**, Plant Growth
- 8023S: **William Lister**, Effects of Household Cleaners on Plant Growth

- 8025T: **Nathan Oase**, Best Fertilizer for Your Houseplant
 8026S: **Freddy Wieffering**, Allelopathy
 8031T: **Amanda Broderick**, Stimulant Drinks
 8032T: **Sara Brunton**, Hair Dye
 8033S: **Brittani Cortez**, How Temperature Affects the Consistence of Paint
 8037T: **Tim Grimes**, Sugar Search
 8038T: **Maura Haselmann**, Durability of Paint
 8040T: **Martha Kelash**, How Do Different Additives Affect How Long a Bubble Lasts?
 8041T: **Hannah Myott**, What Type of Salt Will Cause an Ice Cube to Melt the Fastest?
 8042T: **Stephen Naglak**, Hardness of Mild Steel Depending on Quench Method
 8044S: **Evelyn Rwema**, Nutty Energy
 8045T: **Kyleigh Taylor**, Muffin Mania
 8046W: **Laura Ghostley**, Impact Craters
 8051T: **Maria Balensen**, Hot Air Balloons: Just a Lot of Hot Air?
 8053S: **Austin Granger**, How Does Drop Angle Affect Rollercoaster Speed?
 8056T: **Allison Koram**, What Brand of Paper Towels When Wet is Strongest?
 8060T: **Joe Morgan**, Evaporative Cooling
 8066T: **Ashlee Kephart**, Exotic Earthworms: Positive to Negative Effects in Minnesota's Hardwood Forests?
 8067S: **Emma Roller**, Is Fabric Softener Safe?
 8071S: **Abigail Wold**, Does Number of Sides Affect Structure Strength?
 8072T: **Briana Barnes**, What Do 7th & 8th Graders Know About AIDS?
 8074T: **Jessica Edblom**, When Bad Things Happen to Good Teeth
 8075W: **Katie Eggers**, Tooth Decay
 8080S: **Emilie Sabourin**, Waist Not, Watch Not: Body Mass Index & Television Viewing in Children
 8079T: **Marin Parsons**, Hot Lunch: What it Does to Your Teeth
 8084S: **Zachery Kagan**, Biofilm
 8087T: **Stephen Buckeye**, Heat Properties of Nonmetallic Materials
 8088S: **Martin Camacho**, Electromagnetic Motor
 8089W: **Jimmy Goodsell**, Catapults
 8091T: **Laura Kropp**, Fabric Insulators
 8092S: **Emme Lee**, Relationship Between Guitar String Diameter & Frequency
 8104T: **Nikki Loeffler & Andrea Schaefer**, Affects of Caffeine on Memory
 8105T: **Katie Hansen & Ellie Stafford**, School Uniforms
 8106S: **Patrick MacGregor, Griffin Muckley & Kody Williams** Which Foods Contain More Nutrients than Carrots?

Grade 7

- 7003S: **Nate Causey**, Effect of Circadian Rhythm on Junior High Students
 7004S: **Linnea Dahlquist**, Do Teen Girls Rule?
 7013T: **Maria Harrington**, Positive & Negative Energy
 7017W: **Briana Smith**, Are They Really Smarter? Gender & Cognitive Complexity
 7019T: **Mary Grogan**, Grapes to Raisins
 7025S: **Cosette France**, Amaryllis
 7029W: **Michael Juberian**, Does Different Types of Water Affect Plant Growth?
 7032S: **Antonia Leyden**, Stimulating Plants
 7035S: **Luke Marshall**, Effect of Wind on Height of Wheat & Width of Soybeans
 7039T: **Grace Spencer**, Do Recreational Drugs Affect Plant Growth?
 7045T: **Lauren Gavin**, Hard & Soft Water

- 7047W: **Ben Hickman**, Teeth
- 7053W: **Katherine Labuza**, How does Moisture Loss Affect the Textural Properties of Marshmallows?
- 7058W: **Alexandria Norell**, Plop, Plop, Fizz, Fizz, Oh, What a Relief it Is??
- 7059W: **Anna Stroncek**, Coin Cleaning
- 7067T: **Adam Garfield**, How Many Grams Can I Put on My Maglev?
- 7069T: **Alissa Ladas**, Bag It or Bust It - Which Brand of Plastic Bags is Stronger?
- 7066W: **Ben Flood**, Sonic Freezer
- 7077T: **James Normington**, Global Warming
- 7080W: **Maggie Dolan**, Raising Blood Glucose
- 7083W: **Karissa Johnson**, The Impostor
- 7087S: **Hannah Nauen**, Which Beverage Causes the Most Tooth Decay?
- 7088S: **Spencer Perron**, Hand Cleansers
- 7089W: **MacKensie Quade**, Effectiveness of Manual & Two Powered Toothbrushes on Plaque
- 7092S: **Caralyn Souther**, Anorexia Nervosa and the Pressure on Teen Girls to Look Thin
- 7096W: **Rebecca Broekhuis**, Experimenting With Mold
- 7098S: **Frannie Gilligan**, Bacteria on a Cutting Board
- 7107W: **Laura LeVoir**, Sound
- 7115T: **Michael Schaefer**, Golf Balls
- 7116T: **Danny Shields**, Does Temperature Affect Performance of Different Types of Golf Balls
- 7117W: **Anna Tschida**, Static Electricity
- 7118T: **Marie Vestal**, Heated Metals & the Colors They Produce
- 7119T: **Thomas Winchell**, Conducting of Various Metals
- 7121W: **Shane Bari**, Under What Light Conditions Do Danios Eat Best?
- 7131W: **Anne Hedlund**, Dancing Hearts
- 7132T: **Becca Bjorke & Linnea Delmonico**, Stop the Pop

RESEARCH PAPERS SELECTED FOR COMPETITION AT THE TRI-STATE JUNIOR SCIENCE AND HUMANITIES SYMPOSIUM APRIL 2-3, 2005.

Senior Division:

- Rosemary Lelich**, Effects of Resmethnn on Monarch Butterflies & Larvae
- Isaac Flath**, Random Exponential Population Growth
- Amy Pikovsky**, Preferred Temperature, Metabolic Rate & Circadian Rhythm on Snapping Turtles
- Kyra Underbakke**, Allelopathic Effects of Rhamnus cathartica on Raphanus sativus Germination

Alternates

- 1 **Kale Westby**, Effect of pH on Concrete Block Strength
- 2 **Janet Li**, Characterization of Bone Marrow-Derived Multipotent Stem Cells
- 3 **Shaina Short**, Effects of Herbivore Damage & Nitrogen Fertilizers on Certain Legumes

RESEARCH PAPERS SELECTED FOR COMPETITION AT THE MAS STATE FAIR

Junior Division:

- Linnea Holman**, Improving My Volleyball Serve with Physics
- Hannah Diment**, Does Light Affect Plant Growth When Overpopulation Occurs?
- Katherine Labuza**, How does Moisture Loss Affect the Textural Properties of Marshmallows?
- Linnea Dahlquist**, Do Teen Girls Rule?
- MacKensie Quade**, Effectiveness of Manual & Two Powered Toothbrushes on Plaque
- Alex Norell**, Plop, Plop, Fizz, Fizz, Oh, What a Relief it Is??

Alternates

- 1 **Briana Smith**, Are They Really Smarter? Gender & Cognitive Complexity

- 2 **John Madison**, Which Chemical Solution Creates the Most Luminescence?
 3 **Abby Sutton**, What Sunscreen is Right for You?

PROJECT MEDALISTS: Outstanding Projects in category

Grade 6

- 6001S: **Elianna Bier**, Candy or Medicine?
 6019W: **Elaina Hamann**, Bridges
 6023W: **Calvin Brookman**, What is the Effect of Road Salt on Our Ecosystem?
 6005W: **Matthew Pawlynshyn**, Effects of Audio & Visual Cues on Memory
 6029S: **Cara Gibbs**, Caffeine Buzz
 6017S: **Leif Park Jordan**, How Does Cold Affect the Stickiness of Tape?
 6021W: **Alex Ptaszynski**, R/C NiCad Batteries
 6012T: **Lisa Kuplie**, What Substance Melts Ice the Best?
 6025W: **Joseph Pohl**, Breathe In --- Or Breathe Out
 6033T: **Katie Newell**, Does Swimming Affect Your Blood Pressure?
 6034W: **Andrew Weiler**, Cardiovascular Exercise
 6040W: **Daniel Wratkowski**, Conductivity of Water
 6041W: **Isabella Johnson**, For the Birds
 6046T: **Charlie Berg & Eric Young**, Foil the Oil
 6043S: **Drew Denning & William Huso**, Toothy Way
 6048S: **Ben Liska & Daniel Sabourin**, Hot Baseballs and Tennis Balls

Grade 7

- 7048S: **Parker Hoffman**, Which Cleaning Solutions Hide or Clean Blood Best?
 7066W: **Ben Flood**, Sonic Freezer
 7059W: **Anna Stroncek**, Coin Cleaning
 7096W: **Rebecca Broekhuis**, Experimenting With Mold
 7107W: **Laura LeVoir**, Sound
 7132T: **Becca BJORKE & Linnea Delmonico**, Stop the Pop

MINNESOTA CHAPTER OF THE AMERICAN FISHERIES SOCIETY: Certificate

Senior High

- 1045W: **William Inglis**, Distribution & Abundance of Milfoil Weevil in Lake Minnetonka

Junior High

- 8113S: **Coco Booker & Allie Snow**, Fish Memory

MCNELLIS-IRELAND LEARNING FOR EXPERIENCE AWARD (MILFEX): certificate & Apple Shuffle

- 1076W: **Tim Underbakke**, Paint to Barrel Match Question for Paintball Markers
 1035T: **Philip Hansen**, Optimum Length to Width of Wind Turbine Blades

HENNEPIN MEDICAL SOCIETY ALLIANCE: Certificate and \$50 savings bond

Senior High:

- 1060T: **Ellie Dorfman**, Effects of Various Music Genres on Heart Rate During Physical Exertion

Junior High:

- 7091S: **Rebecca Savelsberg**, Can Sickle Cell Anemia Survive in the Absence of Malaria?

ASSOCIATION OF WOMEN GEOSCIENTISTS: Certificate to female whose project exemplifies high standards of innovativeness and scientific excellence in the geosciences.

Twin Cities:

- 1031T: **Elizabeth Kunkel**, Assesing the Feasibility of a Power System from Deep Ocean Vents
St. Paul:
8050S: **Chee Xiong**, Soil Compaction & Evaporation
Western Suburbs:
8046W: **Laura Ghostley**, Impact Craters

SOCIETY FOR IN VITRO BIOLOGY: Certificate to the most outstanding 11th grade student exhibiting in the areas of plant or animal in vitro biology or tissue culture.

- Twin Cities:**
1066T: **Jennifer Kramm**, Contact Solutions: Naughty or Nice on Bacteria
St. Paul:
1064S: **Nadine Abou-Karam**, Does Low Concentration of Antibiotics to Animal Feed Increase Bacterial Resistance?
Western Suburbs:
1015W: **Kyrstin Underbakke**, Effect of Increased Fructose-2, 6-bisphosphate on the Akt Levels of 293 Cells

UNIVERSITY OF MINNESOTA: DEPARTMENT OF RHETORIC-Gift Bag.

- 8080S: **Emilie Sabourin**, Waist Not, Watch Not: Body Mass Index & Television Viewing in Children

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES: Certificate to the students who creatively illustrate and expand on healthy lifestyles, healthy diets and no tobacco use.

- Twin Cities:**
8077T: **Meghan McCarthy**, Does Not Being Able to Use Your Senses Affect How Fruits Taste?
St. Paul:
7088S: **Spencer Perron**, Hand Cleansers
Western Suburbs:
1063W: **Rachel Voightlander**, Short Term Effect Exercise has on Saliva pH Levels

EAST-SIDE SCIENCE CLUB ALUMNI AWARDS: Medals are presented to outstanding youths that demonstrate innovation and creativeness in project development.

- 6007W: **Julia Ennen**, Water & Bean Plants
6015W: **Ana Nugent**, Corrosion
6017S: **Leif Park Jordan**, How Does Cold Affect the Stickiness of Tape?
8060T: **Joe Morgan**, Evaporative Cooling
8072T: **Briana Barnes**, What Do 7th & 8th Graders Know About AIDS?
7011W: **Kristina Gavino**, Memory in Three Methods
7007S: **Benjamin Dutcher**, Blue-eyed Lemur Aggressive Behavior
7035S: **Luke Marshall**, Effect of Wind on Height of Wheat & Width of Soybeans
8069S: **Evan Vogel**, Something's pHishy About Our Rivers
8011T: **Jenna Mrozinski**, Reaction Time
1070T: **Matthew Higgins**, Effect of Barrell Length on Projectile Distance in Pneumatic Cannons
1057W: **Robert "Tyler" Anderson**, Do You Know What You're Drinking?

MU ALPHA THETA

- Twin Cities:**
1071T: **Zachary Howland**, Ferris Wheel Gone Chaotic: Fluid Dynamics within a Lorenzian Water Wheel

St. Paul:

1054S: **Isaac Flath**, Random Exponential Population Growth

RICOH SUSTAINABLE DEVELOPMENT AWARD: presented to outstanding science fair projects that explore and innovate technologies and principles that protect the environment, and uses resources wisely.

Twin Cities:

1047T: **Britney Mosey**, How Pollution Affects Dissolved Oxygen & Nitrate Rates in Lakes

St. Paul:

1046W: **Rosemary Lelich**, Effects of Resmethnn on Monarch Butterflies & Larvae

Western Suburbs:

1050W: **Kyra Underbakke**, Allelopathic Effects of Rhamnus cathartica on Raphanus sativus Germination

AMERICAN METEOROLOGICAL SOCIETY: Certificates or outstanding achievement in Meteorological Science.

7050W: **Mark Juel**, How Do Certain Chemicals Affect the Melting of Ice?

8065T: **Paul Crossett**, Do Greenhouse Gases Affect the Temperature of a Given Atmosphere?

1032T: **Ethan Chun**, Correlation of Radon Concentration & Barometric Pressure

6012T: **Lisa Kuplie**, What Substance Melts Ice the Best?

EASTMAN KODAK COMPANY: Camera kit to student and school.

Twin Cities:

1031T: **Elizabeth Kunkel**, Assesing the Feasibility of a Power System from Deep Ocean Vents, **Burnsville High School**

St. Paul:

1065S: **Andrew Bergk**, Bacteria - The Invisible Enemy, **Maranatha Christian Academy**

Western Suburbs:

1013W: **Andrew Davis**, In Situ Localization of MT# & Associated Proteins in Mouse Brain Tissue, **Breck School**

U.S. METRIC ASSOCIATION: Certificate to the student whose project involves a significant amount of quantitative measurement and which best uses the metric system.

Twin Cities:

1089T: **Sharia Ahmed & Ashley Gruhlke**, Ecological Impact if Surfactants on Aquatic Environments

St. Paul:

1064S: **Nadine Abou-Karam**, Does Low Concentration of Antibiotics to Animal Feed Increase Bacterial Resistance?

Western Suburbs:

1052W: **Leah Carlson**, Neuroprotective Effects of TUDCA on 6-OHDA-Induced Apoptosis in PC12 Cells

ASM MATERIALS EDUCATION FOUNDATIONS: Medallion and Certificate

Twin Cities:

1033T: **Tyler Bonewell**, Submarine Swim Suits: A Correlation of Material and Time

St. Paul:

8047S: **Chase Haider**, Parachutes

Western Suburbs:

1015W: **Kyrstin Underbakke**, Effect of Increased Fructose-2, 6-bisphosphate on the Akt Levels of 293 Cells

INTEL EXCELLENCE IN COMPUTER SCIENCE AWARD: Certificate and \$200 check (in the mail)

Twin Cities:

1027T: **Zachary Helgeson**, Effects of Overall Computer Performance through RAM Modification

St. Paul:

1054S: **Isaac Flath**, Random Exponential Population Growth

Western Suburbs:

1092W: **Colin Drummond & Daniel McKeon**, Silicon Metal-Insulator-Semiconductor Field-Effect...

AMERICAN PSYCHOLOGICAL ASSOCIATION: Certificate

Twin Cities:

1011T: **Elizabeth Spafford**, Emotional Interpretation of Music

St. Paul:

8012S: **Charlotte O'Halloran**, Does Caffeine Affect Blood Pressure at Times of Anxiety

Western Suburbs:

1009W: **Holly McCullough**, Shut Up & Drive!

STOCKHOLM JUNIOR WATER PRIZE: Certificate and entry in further competition to the student whose project is aimed at improving the quality of water, water resource management, water protection or water and wastewater treatment.

Twin Cities:

1047T: **Britney Mosey**, How Pollution Affects Dissolved Oxygen & Nitrate Rates in Lakes

Western Suburbs:

1045W: **William Inglis**, Distribution & Abundance of Milfoil Weevil in Lake Minnetonka

SCIENCE MUSEUM OF MINNESOTA: Four Tickets to the Science Museum.

7114W: **Timothy Quandt**, House Insulation

7061T: **Shannon Twohy**, Does Gourmet Baking Ingredients Achieve Noticeable Results?

AMERICAN COUNCIL OF ENGINEERING COMPANIES OF MINNESOTA:

Grand Award: Scientific calculator

8059T: **Rebecca Mullally**, The Power of Wind

Honor Awards: Certificate

6019W: **Elaina Hamann**, Bridges

6022T: **Steven Ward**, Strength of Wood Glue

7068W: **Laura Jelgerhuis**, Trusses & Triangles

7069T: **Alissa Ladas**, Bag It or Bust It - Which Brand of Plastic Bags is Stronger?

8063S: **Magdalena Tillman**, Which Building Framework Design Can Hold the Most Weight?

8089W: **Jimmy Goodsell**, Catapults

1034T: **Andrew Cole**, Magnetic Levitation and Acceleration

1037T: **Joseph Larson**, Sound Waves Used as Electricity

INTERNATIONAL SOCIETY FOR OPTICAL ENGINEERING: Certificate & entry in further competition

Twin Cities:

1073T: **Daniel Klingensmith**, Effect of the Angle of a polarizing Filter on the intensity of laser light

St. Paul:

1074S: **Enrique Ruiz**, Reflection of Sound Waves & How Different Materials Effect that Reflection.

Western Suburbs:

1042W: **Matthew Trusheim**, Combining Gel Electrophoresis & a Planar Waveguide

YALE SCIENCE AND ENGINEERING ASSOCIATION, INC: Certificate and medallion to the most outstanding eleventh grade exhibit in Computer Science, Engineering, Physics or Chemistry.

Twin Cities:

1039T: **Christopher Olsen**, Using Table Scraps for Combustible Engine Fuel

Western Suburbs:

1042W: **Matthew Trusheim**, Combining Gel Electrophoresis & a Planar Waveguide

ISEF ALUMNI AWARD:**Sponsor: Timara Underbakke: \$25 and a certificate**

8018T: **Tiffanie Stone**, Effect of Temperature on the Disintegraion of Bacillus thuringiensis
Science Key Chain Medal & certificate

8043T: **Meghan Nilan**, Hydrogen Peroxide

8084S: **Zachery Kagan**, Biofilm

8090S: **Linnea Holman**, Improving My Volleyball Serve With Physics

8097T: **Ellen Schneider**, Enhancing Physiological Performance by Physical Practice or Mental Imagery?

Sponsor: Michael Lohman: P51 Classic Model

7105T: **Thomas Hofmeister**, Submarines and Buoyancy

MINNESOTA AGRICULTURE IN THE CLASSROOM:**Certificate and \$75 to the best project in agricultural sciences****Senior High:**

1019W: **Shaina Short**, Effects of Herbivore Damage & Nitrogen Fertilizers on Certain Legumes

1044W: **Colin Hannigan**, Aphid City: Population 4... 8... 16...

Junior High:

7027W: **Elizabeth Johnson**, How Do Different Kinds of Light Affect Plant Growth?

Certificates and \$75 to the best research paper in agricultural science**Senior High**

Kyra Underbakke, Allelopathic Effects of Rhamnus cathartica on Raphanus sativus Germination

Junior High

Hannah Dimet, Does Light Affect Plant Growth when Overpopulation Occurs?

USDA-AGRICULTURE RESEARCH SERVICE: Books related to the area of study**6th Grade:**

6023W: **Calvin Brookman**, What is the Effect of Road Salt on Our Ecosystem?

7th Grade:

7032S: **Antonia Leyden**, Stimulating Plants

8th Grade:

8066T: **Ashlee Kephart**, Exotic Earthworms: Positive to Negative Effects in Minnesota's Hardwood Forests?

High School:

1045W: **William Inglis**, Distribution & Abundance of Milfoil Weevil in Lake Minnetonka

- 1046W: **Rosemary Lelich**, Effects of Resmethnn on Monarch Butterflies & Larvae
 1012T: **Nada Abou-Karam**, Do Neem Seed Extracts Inhibit Aflatoxin Production Without Inhibiting Aspergillus flavus Growth?

MINNESOTA ASTRONOMICAL SOCIETY: Certificate & prize package

- 6018S: **Hindi Golay**, Estimation of the Ray of the Earth Using the Light
 7062T: **Thomas Bukowski**, When North goes South
 8046W: **Laura Ghostley**, Impact Craters

MINNESOTA SPACE FRONTIER SOCIETY: Certificate & prize package

- 6037W: **John Quandt**, Model Rockets Speed/Acceleration
 7133W: **Joseph Edwards & Brian Gooley**, Wassup? Impact of Wing Angle on Lift
 8047S: **Chase Haider**, Parachutes
 8051T: **Maria Balensen**, Hot Air Balloons: Just a Lot of Hot Air?
 8058T: **Sean Luna**, Can You Build a Hovercraft?
 8071S: **Abigail Wold**, Does Number of Sides Affect Structure Strength?
 8086T: **Kayla Benson**, Electromagnets
 1040T: **Kyle Randolph**, Determining Payload Mass in a "Box-Kite" Tumbleweed Rover

TCSRF TEAM PROJECT AWARDS: Trophies to the best teams in each level of competition.

Grade 6

- 6046T: **Charlie Berg & Eric Young**, Foil the Oil

Grade 7

- 7132T: **Becca Bjorke & Linnea Delmonico**, Stop the Pop

Grade 8

- 8104T: **Nikki Loeffler & Andrea Schaefer**, Affects of Caffeine on Memory

High School

- 1090S: **Erik Halverson & Kalia Her**, Effects of Human Activity on Minneapolis Waterways

GLEN DOMEIER MEMORIAL AWARD: Compass & use book, \$50 to the project that best demonstrates excellence in environmental sciences.

- 1050W: **Kyra Underbakke**, Allelopathic Effects of Rhamnus cathartica on Raphanus sativus Germination

US Navy/US Marine Corps: Certificates and award letters, winner to select a source for a \$50 gift certificate.

Senior High

Twin Cities

- 1031T: **Elizabeth Kunkel**, Assesing the Feasibility of a Power System from Deep Ocean Vents

St. Paul:

- 1064S: **Nadine Abou-Karam**, Does Low Concentration of Antibiotics to Animal Feed Increase Bacterial Resistance?

Western Suburbs:

- 1036W: **Christopher Jackson**, Effect of Nitrogen Injection on Moisture Distribution in Cheddar Cheese Blocks

Junior High

- 6015W: **Ana Nugent**, Corrosion
 6019W: **Elaina Hamann**, Bridges
 7009W: **Kyle Erffmeyer**, How Fast Can You Think?

- 7046T: **Andrew Grimes**, How Temperature Affects Rusting
 8053S: **Austin Granger**, How Does Drop Angle Affect Rollercoaster Speed?
 8066T: **Ashlee Kephart**, Exotic Earthworms: Positive to Negative Effects in Minnesota's Hardwood Forests?

HERBERT HOOVER YOUNG ENGINEER AWARD: Certificate and medal to the project that best demonstrates outstanding engineering effort.

Twin Cities:

- 1056T: **Lon Stousland**, Exponential Patterns in John Coltrane's "Blue Train"

St. Paul:

- 1054S: **Isaac Flath**, Random Exponential Population Growth

Western Suburbs:

- 1042W: **Matthew Trusheim**, Combining Gel Electrophoresis & a Planar Waveguide

SCHOOL TROPHIES: Trophy to all participating schools.

Academy of Holy Angels	L'Etoile du Nord French Immersion School
Annunciation School	Maranatha Christian Academy
Bethany Academy	Minnetonka High School
Blessed Trinity School	Murray Junior High School
Breck School	Nativity of Our Lord School
Burnsville High School	North View Junior High School
Calvin Christian School - Blaine	Presentation of the BVM School
Calvin Christian School - Edina	Richfield High School
Capitol Hill Magnet School	Roseville Area High School
Como Park Senior High	St. Charles Borromeo School
Eden Prairie High School	St. Helena School
Future Scientist Discovery Program	St. John the Baptist School
Holy Trinity School	St. Pascal School
HOMESCHOOL	St. Paul Academy
IHM - St. Luke's School	St. Peter's Catholic School
Immaculate Conception School	Sunrise Park Middle School
Johnson Senior High School	Wayzata High School

UNITED STATES ARMY SCIENCE & ENGINEERING AWARDS:

Twin Cities:

Medallion, Certificate & Polo shirt:

- 1049T: **David Pricco**, Correlation of the Presence of Children & E. Coli Levels

Certificate & T-shirt::

- 1007T: **Amanda Leaveck**, Effect of Background Music on a High School's Ability to Concentrate

- 1037T: **Joseph Larson**, Sound Waves Used as Electricity

Certificate

- 1006T: **Brittany Gries**, Effect Colors Have on Memorization

St. Paul:

Medallion, Certificate & Polo shirt:

- 1064S: **Nadine Abou-Karam**, Does Low Concentration of Antibiotics to Animal Feed Increase Bacterial Resistance?

Certificate & T-shirt:

1074S: **Enrique Ruiz**, Reflection of Sound Waves & How Different Materials Effect that Reflection.

1054S: **Isaac Flath**, Random Exponential Population Growth

Western Suburbs:**Medallion, Certificate & Polo shirt:**

1015W: **Kyrstin Underbakke**, Effect of Increased Fructose-2, 6-bisphosphate on the Akt Levels of 293 Cells

Certificate & T-shirt::

1062W: **Janet Li**, Characterization of Bone Marrow-Derived Multipotent Stem Cells

1036W: **Christopher Jackson**, Effect of Nitrogin Injection on Moisture Distribution in Cheddar Cheese Blocks

Certificate

1092W: **Colin Drummond & Daniel McKeon**, Silicon Metal-Insulator-Semiconductor Field-Effect...

1065W: **Andrew Bergk**, Bacteria - The Invisible Enemy

UNITED STATES AIR FORCE: Certificate, Dayplanner and Medal

1052W: **Leah Carlson**, Neuroprotective Effects of TUDCA on 6-OHDA-Induced Apoptosis in PC12 Cells

1062W: **Janet Li**, Characterization of Bone Marrow-Derived Multipotent Stem Cells

1024T: **Trevor Janke**, Effects of Thermal Energy on Electrolytic & Non-electrolytic Solutions

1037T: **Joseph Larson**, Sound Waves Used as Electricity

SIGMA DELTA EPSILON SORORITY, GRADUATE WOMEN IN SCIENCE \$50 Check:

1055T: **Lauren Miller**, Which Architecture Type Has the Most Usable Space?

8076S: **Lisa Fenske**, Do Ripples Fat-Free, Original, or Baked Potato Chips Have Less Oil?

8064S: **Tracie Borich**, Brightest White

8020T: **Haley Coy**, Eggshells, Worms, & Apples, Oh my!

7054S: **Jean Miller**, Your Diaper is Dripping

7059W: **Anna Stroncek**, Coin Cleaning

ARNOLD AIR SOCIETY, AIR FORCE ROTC: Medallion, Patch and Model

1071T: **Zachary Howland**, Ferris Wheel Gone Chaotic: Fluid Dynamics within a Lorenzian Water Wheel

TCSRF "Just for fun" Awards:

1078T: **Daniel LaQua**, Study of Odocoileus virginianus on Habitat

1030W: **Matthew DePaolis**, Erosion

8081T: **Caitlin Sweetser**, Hearing Loss

7083W: **Karissa Johnson**, The Impostor

7007S: **Benjamin Dutcher**, Blue-eyed Lemur Aggressive Behavior

6009W: **David Wolf**, Ripening Process

6038T: **Adam Roznowski**, Do Drinks Stay Colder Longer in Cans or Bottles?

The Twin Cities Regional Science Fair gratefully acknowledges the in-kind donations from the following companies who have directly contributed to the success of the fair.

Twin Cities Catering for the wonderful judges' dinner.

Option Care Enterprises, Inc. for planning and hand cleaner.

USS Nokomis Club for volunteers for set-up and tear down, and serving on committees.

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University of MN Science CentrUM for hosting the project program.
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Judges for volunteering to make a difference in the lives of future scientists.

As the Twin Cities Regional Science Fair Director, I would be remiss if I did not acknowledge the countless hours of work donated by the hardest working people in Minnesota: Karin Ostrand, Sue Zenk, Mike Lohman, David Underbakke, Timara Underbakke, Jason McNellis, Sonia Dunlap, Arthur Payne, Judy Payne, Terry Slattery, Wendy Slattery, Dr. Michael Russelle and Jenny Hugstad-Vaa.

Thank you.
Penny Lohman