

**ISEF - International Science and Engineering Fair**

- Reno, Nevada - May 10-16, 2009

**Finalists****Twin Cities**

1049T	Nicholas NaSal and Joseph Lane	Grade 12	It's Getting H.A.W.T. in Here: An Analysis of the Efficiency of Various Airfoil Designs on a Horizontal Axis Wind Turbine
1074T	Prithwis Mukhopadhyay	Grade 10	A Common Food Additive Induces Cell Migration and Neoplastic Phenotype of Mammary Epithelial Cells by Reducing Arylsulfatase B Activity
1103T	Tiffanie Stone	Grade 11	How Smart Is The Common Bean: Assessing Bean Plant Ability To Differentiate Between A Moderate Nitrogen Fixer And An Ideal Nitrogen Fixer

**Western Suburbs**

1062W	Michael Fuad	Grade 12	Harvesting microalgae ( <i>Chlamydomonas reinhardtii</i> ) for biofuel production using wastewater treatment techniques
1068W	Sahar Hakim-Hashemi and Sierra Danforth	Grade 12	Host-Range Study To Determine The Potential Of <i>Lysiphlebus Orientalis</i> As A Biological Control Agent For Exotic Invasive Soybean Aphids ( <i>Aphis Glycines</i> )
1079W	Stephen Trusheim	Grade 12	Engineering and Validating Predictive Infection Surveillance Strategies for Methicillin-resistant <i>Staphylococcus aureus</i>

**St. Paul**

1005S	Chee Xiong	Grade 12	Crazy Texting While Driving
1073S	Martin Camacho	Grade 11	Sequences of reducible 0,1 polynomials

**Alternates****Twin Cities**

1028T	Ashley Santilli and Emily Bostrom	Grade 11	Penicillin/Streptomycin Efficiency in Aiding Bacterial Killing by Peritoneal Macrophages
1054T	Anushua Bhattacharya	Grade 9	Smart Fluids: From Automotives to Healthcare

**Western Suburbs**

1053W	Michael Crump	Grade 12	Engineering thin-layer organic solar cells using a novel tri-layer architecture
1108W	Xin Li	Grade 12	Verification and characterization of sugar-response <i>Arabidopsis</i> mutant <i>gte4</i> for higher biofuel and soy protein production

## Sponsors Awards

- Winners must be present at the awards ceremony & have photo taken at project with award or an alternate will receive the award

### Bronze Level-Ribbon

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

7200S	Sophia Lopez (was 6058S)	Grade 7	Does Toothpaste or Mouthwash Fight Bacteria Better?
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### Silver Level-Plaque

#### Alliant Techsystems

1026W	Madelaine Taft-Ferguson	Grade 12	Assessing the Viability of Islet Xeno-Transplants for Type-1 Diabetes
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### Slattery Sales Group

1062W	Michael Fuad	Grade 12	Harvesting microalgae ( <i>Chlamydomonas reinhardtii</i> ) for biofuel production using wastewater treatment techniques
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### Mintahoe Hospitality Group

8101R	David Campeau	Grade 8	Internal Contamination of Serrano Peppers by Salmonella Species
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### St. Paul Youth Fund

1005S	Chee Xiong	Grade 12	Crazy Texting While Driving
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### Midway Party Rental

8048W	Emily Cherkassky	Grade 8	A computer method for clustering European languages
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### Gold Level-Plaque

#### FilmTec Corporation/Dow Chemical

8060T	Andy Ylitalo	Grade 8	Saving Energy in Buildings with a Seasonably Adjustable Window Film concept
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### University of Minnesota

1060W	Lanre Adekola	Grade 12	Effects of Soil Compaction and Macropores on Water Infiltration Patterns
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### Platinum Level-Plaque

#### 3M Foundation

1074T	Prithwis	Grade	A Common Food Additive Induces Cell Migration and Neoplastic Phenotype of Mammary Epithelial Cells by
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Mukhopadhyay 10 Reducing Arylsulfatase B Activity

### The Medtronic Foundation

1054T Anushua Bhattacharya Grade 9 Smart Fluids: From Automotives to Healthcare

### Ecolab

1108W Xin Li Grade 12 Verification and characterization of sugar-response Arabidopsis mutant gte4 for higher biofuel and soy protein production

### Minnesota Academy of Science State Science and Engineering Fair

- Projects selected to represent our region in competition in St. Paul, March 29-31, 2009

1001W	Kelly Sobczak	Grade 11	Color Blindness and Learning Abilities in Horses
1005S	Chee Xiong	Grade 12	Crazy Texting While Driving
1010T	Kirsten Harrod	Grade 10	How Psychosocial and Psychological Factors Influence Deliberate Self-Harm Among Adolescents
1014T	Erika Nordquist	Grade 10	Say Again? Percieced Reliability and Friendliness in Phone Sales
1015T	Nicole Jeziorski	Grade 10	Sports Effect on Students GPA
1016T	Chloe Westlund	Grade 10	Study in Silence
1022T	Anarae Schunk	Grade 10	Variations in Heart Rate Between Age Levels While Playing Chess
1023T	Stephen Risk	Grade 9	Word Count
1025S	Meng Xiong	Grade 9	Saturated vs. Unsaturated
1026W	Madelaine Taft-Ferguson	Grade 12	Assessing the Viability of Islet Xeno-Transplants for Type-1 Diabetes
1027T	Nicole Lee	Grade 11	Mechanisms of Melanoma Migration
1028T	Ashley Santilli and Emily Bostrom	Grade 11	Penicillin/Streptomycin Efficiency in Aiding Bacterial Killing by Peritoneal Macrophages
1033W	Daniel Mokhtari	Grade 11	Synthesizing a novel molecule to tag heavy metal cations and pathogens in water supplies
1037T	Benjamin Brown	Grade 10	What Compound Melts Ice Most Efficently?

1038T	Michael Cherkassky	Grade 12	Biomedical Ontology Engineering via Information Theory
1039W	Robert Deichert	Grade 9	Computer Memory and Speed: How RAM Affects Computer Speed
1040W	Mike Pruszinske	Grade 10	A Revolution in Hydropower
1044W	Adam Houle	Grade 10	How Does Launch Angle Affect Distance
1045T	Tucker Gasperini	Grade 9	LED Brightness
1049T	Nicholas NaSal and Joseph Lane	Grade 12	It's Getting H.A.W.T. in Here: An Analysis of the Efficiency of Various Airfoil Designs on a Horizontal Axis Wind Turbine
1050T	Shannon Clifford and Kaylyn Webb	Grade 11	Why did my wheel fall off my car?
1052W	Elaina Hamann	Grade 10	Can Algae Be Converted Into Biodiesel?
1053W	Michael Crump	Grade 12	Engineering thin-layer organic solar cells using a novel tri-layer architecture
1054T	Anushua Bhattacharya	Grade 9	Smart Fluids: From Automotives to Healthcare
1060W	Lanre Adekola	Grade 12	Effects of Soil Compaction and Macropores on Water Infiltration Patterns
1061T	Katie Rempfert	Grade 11	Effects of the Corn Herbicide Acetochlor on Aquatic Life, Specifically the Species Lemna gibba
1062W	Michael Fuad	Grade 12	Harvesting microalgae ( <i>Chlamydomonas reinhardtii</i> ) for biofuel production using wastewater treatment techniques
1063W	Emily Nimmer	Grade 12	Monarch Butterflies ( <i>Danaus plexippus</i> ) as Bioindicators of Global Climate Change
1066T	Hawi Teizazu	Grade 10	The Effect of Sound on the Leaf Width, Stem Thickness, and Height of Plants
1068W	Sahar Hakim-Hashemi and Sierra Danforth	Grade 12	Host-Range Study To Determine The Potential Of <i>Lysiphlebus orientalis</i> As A Biological Control Agent For Exotic Invasive Soybean Aphids ( <i>Aphis glycines</i> )
1069T	Jesse Acosta	Grade 10	Urban Restoration In The Palm Of Your Hand
1070T	Michael Bolland	Grade 10	A Study on Algorithms for 2-Dimensional Mazes
1073S	Martin Camacho	Grade 11	Sequences of reducible 0,1 polynomials

1074T	Prithwis Mukhopadhyay	Grade 10	A Common Food Additive Induces Cell Migration and Neoplastic Phenotype of Mammary Epithelial Cells by Reducing Arylsulfatase B Activity
1076T	Uyen Truong	Grade 11	An Analysis of the Affect of Coke on Bone Loss
1078W	Travis Spangler	Grade 12	Effectiveness of Bispecific Cytotoxin (DTEGFATF) in Ameliorating Human Glioblastoma Tumors
1079W	Stephen Trusheim	Grade 12	Engineering and Validating Predictive Infection Surveillance Strategies for Methicillin-resistant Staphylococcus aureus
1082T	Alexander Ebertowski	Grade 10	High School Athletes Hearts: Are They Better Conditioned than Non-athletes Hearts?
1087T	Sharmila Ahmed	Grade 10	Effects of Heated Polycarbonate and Epoxy Resins on Saccharomyces cerevisiae Count
1088W	Olivia Chase	Grade 9	Effects of Ultraviolet Radiation on Group A Streptococcus Bacteria
1091W	Andrew Glover	Grade 9	Off-Ice Stickhandling: Just Like the Real Thing?
1092T	Jessica Blosberg	Grade 9	Power In Produce
1093W	Peter Bergk	Grade 10	Resonant Frequency: Ouch that Hertz!
1095T	Alyssa Trang	Grade 10	The Analysis and Correlation of Physics and Dance
1098T	Nathan Rudeen	Grade 9	The effect of different types and shapes of wood on volume of sound.
1101W	Eric Hanson, Nina Zeng, and Gaurav Kandlikar	Grade 11	Examining the Viscosity of non-Newtonian Fluids
1103T	Tiffanie Stone	Grade 11	How Smart Is The Common Bean: Assessing Bean Plant Ability To Differentiate Between A Moderate Nitrogen Fixer And An Ideal Nitrogen Fixer
1104W	Paimon Pakzad	Grade 9	Perspective on Gravity
1105W	Paris Ebersviller	Grade 9	Phytoremediation
1108W	Xin Li	Grade 12	Verification and characterization of sugar-response Arabidopsis mutant gte4 for higher biofuel and soy protein production
7004W	Lexi Knudsen	Grade 7	Are Color or Black and White Pictures Easier to Remember?
		Grade	

7005S	Kathleen Sheehan	7	Are Lefties the Only Ones in Their Right Mind?
7010W	Venessa Scott	Grade 7	Does Seeing or Hearing Instructions Affect Performance at a Task?
7016W	Cadrian Axelson	Grade 7	How Scents Influence Feelings
7022T	Andrew Munkelwitz	Grade 7	Absorbency of Diapers
7024S	Frances Hoekstra	Grade 7	Antioxidant Activity Lab
7028T	Peter Book	Grade 7	Different Chemicals and the Evaporation of Ice
7029S	Olivia Swartz	Grade 7	Does Homemade or Store-bought Cleaning Products Clean Better?
7032S	Ariana Conroy	Grade 7	Glowsticks
7042W	John Bode	Grade 7	Why the chili failed: understanding the chemistry of dried beans.
7043S	Alyssa Kolb	Grade 7	Blame it on the rain
7047W	Hannah Manion	Grade 7	Ethanol: Fuel for the Future
7053S	Will Wharton	Grade 7	Barrel-istic Ballistics
7057T	Connor Salchow	Grade 7	Magnetic Fields
7059S	Lydia Newman-Heggie	Grade 7	Planes, Paper Clips, & Propellers
7063T	Luis Guzman and Jonah Shaw	Grade 7	How does incident light intensity and angle of incidence affect the solar cell output?
7067W	Katie Wratkowski	Grade 7	Acid Rain
7076S	Connor Burke	Grade 7	Energy Drinks Do They Really Improve Performance
7078S	Dane Ostlie-Olson	Grade 7	Gas Exchange In Plgs, Sharks and Frogs
7084T	Heather Stone	Grade 7	The Addition of Which Spice Makes Something Taste Sweeter?
7086W	Ryan Connelly	Grade 7	The Stress on the Knee
7090S	Makayla Brummer	Grade 7	Bacteria Attack

7091S	Margaret Stover	Grade 7	How Many Rare Hamburgers have pathogenic Strains of E. coli?
7094S	Viola Holman	Grade 7	Angles In The Infield
7106S	Madeline Schuster	Grade 7	Physics and Music: What Is the Relationship between Force and Pitch on a Musical String?
7107T	Amber Klein	Grade 7	Polyurethane Isocynateis vs fiberglass
7116T	Claire Honerman	Grade 7	Does Temperature Vary in Germination
7117W	Maddie Vande Kamp	Grade 7	Exploration in Apple Preservation
7120S	Fiona Reid	Grade 7	How do different types of grass fertilizers affect how tall grass grows?
7126W	Molly Knapp	Grade 7	Let There be Light
7127W	Erin Gorman	Grade 7	Long Lasting Liquids
8003T	Katherine Rusin	Grade 8	Do Goldfish Have Memory?
8012S	Charlie Nelson	Grade 8	Eat popcorn Drink Cola
8015S	Evan Wall	Grade 8	Jelly In my Belly
8018S	Kara Forde	Grade 8	Multitasking
8024S	Joe Gargaro	Grade 8	The Effect of Gender on Social Anxiety
8033W	Peter Schroedl	Grade 8	Oil Spills
8034S	Evan Berger	Grade 8	The Relative Similarity of Fingerprints
8037S	Thomas Stinar	Grade 8	Does Fire Retardant spray Limit and Stop the Spread of Fire
8046T	Adam Luecke	Grade 8	Which dandruff shampoo most effectively inhibits yeast activity?
8048W	Emily Cherkassky	Grade 8	A computer method for clustering European languages
8050T	James Kruse	Grade 8	Does Protein Exist In The Soft Tissue Found In Mosasaur Teeth?
		Grade	

8054W	Kevin Barry	8	Tomorrows Weather
8056S	Elena Anderson	Grade 8	Blowing In The Wind Wind Turbines and Electricity
8060T	Andy Ylitalo	Grade 8	Saving Energy in Buildings with a Seasonably Adjustable Window Film concept
8065T	Thomas DAgostino	Grade 8	Thermal Conductivity of Copper vs. Polypropylene
8070S	Madeline OMeara	Grade 8	Whack It!
8076W	Alexandria Herr, Samuel Weiss	Grade 8	Wood Density and its Relation to Caloric Output
8089T	Robert Mouton	Grade 8	Man Vs. Synthetic: Battle of the Insulins
8091S	Caitlin Ostenby	Grade 8	Nightly Night Dust Mite: Which Method of Removing Dust Mites from Pillows is the Most Effective?
8093S	Katerina Kolar	Grade 8	Snooze or Lose! The Effects of Sleep Deprivation on Teens' Memory and Blood Pressure
8099W	Hannah Wysopal	Grade 8	Cutting Board What's on Yours?
8101R	David Campeau	Grade 8	Internal Contamination of Serrano Peppers by Salmonella Species
8105W	Daniel Nugent	Grade 8	Color Light vs. Fog
8107W	Ivan Extrand	Grade 8	Does Wind Affect the Melting Rate of Ice
8108S	Sey Lee	Grade 8	How does the Mass of Toy Cars and the Height of the Starting Point affect the Cars to go around a Loop?
8113S	Bjorn Trail-Johnson	Grade 8	That's the Way the Soccer Ball Bounces
8119S	Anastasia Macey	Grade 8	Are city streets killing my trees?
8123S	Breanna Yang	Grade 8	How does CO2 affect seed germination?
8126W	Aditi Gupta	Grade 8	The Rhizobium Effect
8127S	Ian Reynolds, Bobby Buckley, Vince Anderson	Grade 8	Seeds of Doubt

### Research Papers Selected for Competition at the Tri-State Junior Science and

## Humanities Symposium

- North Central JSHS, March 28th-29th, 2009

### Grades 9-12 Senior Division

#### 1st Place Trophy

Lanre Adekola	Grade 12	Effects of Soil Compaction and Macropores on Water Infiltration Patterns
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#### 2nd Place Trophy

Prithwis Mukhopadhyay	Grade 10	A Common Food Additive Induces Cell Migration and Neoplastic Phenotype of Mammary Epithelial Cells by Reducing Arylsulfatase B Activity
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#### 3rd Place Trophy

Anushua Bhattacharya	Grade 9	Smart Fluids: From Automotives to Healthcare
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#### Also Competing At Symposium

Emily Nimmer	Grade 12	Monarch Butterflies ( <i>Danaus plexippus</i> ) as Bioindicators of Global Climate Change
Michael Fuad	Grade 12	Harvesting microalgae ( <i>Chlamydomonas reinhardtii</i> ) for biofuel production using wastewater treatment techniques
Sharmila Ahmed	Grade 10	Effects of heated polycarbonate and epoxy resins on <i>Saccharomyces cerevisiae</i> count
Kelly Sobczak	Grade 11	Color Blindness and Learning Abilities in Horses
Jennifer Husen	Grade 10	The porosity of soil from three different locations
Alex Ebertowski	Grade 10	High school athletes' hearts: Are they better conditioned than non-athletes' hearts?
Scott Wheeler	Grade 10	Wind Turbines at Work
Kelly McCann	Grade 10	The clock is ticking and the temperature is changing--What will happen to my brain?
Kirsten Harrod	Grade 10	How psychosocial and psychological factors influence deliberate self-harm among adolescents
Kristen Kraimer	Grade 10	The effect of musical tunes on learning ability
Kevin Berge	Grade 10	Assessments of arithmetic properties within muscial genres

Martin Anderson	Grade 10	Specific impulse of traditional black powder rocket engines in the pyrotechnics industry
Alex Beane	Grade 10	Exploring the unknown: Experimenting the accuracy of lifting latent fingerprints
Matt Hardegger	Grade 10	A comparative study of heat transfer in atmospheric gases
Aaron Steeg	Grade 10	Wind power with Tesla
Chee Xiong	Grade 12	Crazy Texting While Driving
Preston Grygiel	Grade 10	The changes in descent rates with increasing surface area of parachutes
Alyssa Trang	Grade 10	The analysis and correlation of physics behind dance
Vicki Weiss	Grade 10	The impact of texting on the road

### Research Papers Selected for Competition

- Competition at the Minnesota State Science Fair, in St. Paul, March 29-31, 2009

#### Grades 7-8 Junior Division

##### 1st Place Trophy

Viola Holmann Grade 7 Angles In The Infield

##### 2nd Place Trophy

Andy Ylitalo Grade 8 Saving Energy in Buildings with a Seasonably Adjustable Window  
Film concept

##### 3rd Place Trophy

Aditi Gupta Grade 8 The Rhizobium Effect

#### Also Competing At State Paper Competition

Brooke Rogers	Grade 7	How does air temperature affect air pressure?
Cal Nicholson	Grade 7	The Onion Cut!
Emily Cherkassky	Grade	A computer method for clustering European languages

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Anastasia Macey	Grade 8	Are city streets killing my trees?
Dane Ostlie-Olson	Grade 7	Gas Exchange In Plgs,Sharks and Frogs
Della Kurzer-Zlotnick	Grade7	How Personal Characteristics Affect the Vailidity of Memory
David Campeau (Rochester)	Grade 8	Internal Contamination of Serrano Peppers by Salmonella Species

### Almost Perfect Teacher Award

- Trophy (Almost Perfect) & Gift Certificate (for Perfect Paperwork!)

Lois Fruen Breck School

### American Council of Engineering Companies of Minnesota

#### Grand Award

1055T	Martin Anderson	Grade 10	Specific Impulse of Traditional Black Powder Rocket Engines in the Pyrotechnics Industry
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#### Honor Award

1040W	Mike Pruszinske	Grade 10	A Revolution in Hydropower
1056T	Brigid Kelly	Grade 9	The Effect of Pier Placement on the Compression and Tension on a Pratt Through Truss Bridge
6035T	Tanner Behny	Grade 6	Flying Mousetrap Car
6068S	Luke Bishop and Branick Weix	Grade 6	Sky Riders: How Different-Sized Engines Affect the Force and Speed of a Rocket
7048S	Katherine Hartnett	Grade 7	Going Green
7095W	Claire Walker	Grade 7	Bridge Designs
8056S	Elena Anderson	Grade 8	Blowing In The Wind Wind Turbines and Electricity
8067T	Danny Opitz, Kyle Fallon, Spencer Bainbridge	Grade 8	Propane Cannon

**American Meteorological Society Award**

- Certificates for outstanding achievements in Meteorological Science

**Twin Cities**

6027T Craig Nielsen Grade 6 Science For Flakes

**Western Suburbs**

8054W Kevin Barry Grade 8 Tomorrows Weather

8107W Ivan Extrand Grade 8 Does Wind Affect the Melting Rate of Ice

**St. Paul**

6025S Elias Hoffrenning Grade 6 Does temperature affect the strength of a magnet?

6042S Khiara Foss Grade 6 How does acid rain affect the environment?

7043S Alyssa Kolb Grade 7 Blame it on the rain

7069S Elizabeth Farley Grade 7 Which Weather Station is Most accurate in its Predictions

7099S Brooke Rogers Grade 7 How does air temperature affect air pressure?

**American Psychology Association Award**

- Certificate

**Twin Cities**

1010T Kirsten Harrod Grade 10 How Psychosocial and Psychological Factors Influence Deliberate Self-Harm Among Adolescents

**Western Suburbs**

1018W Lauren Pirk Grade 10 The Capability Of the Teenage Mind

**St. Paul**

1005S Chee Xiong Grade 12 Crazy Texting While Driving

**ASM Materials Education Foundation Award**

- Certificate & medallion (In the mail) recognizing the best materials engineering project

**Twin Cities**

1054T Anushua Bhattacharya Grade 9 Smart Fluids: From Automotives to Healthcare

**Western Suburbs**

1053W Michael Crump      Grade 12      Engineering thin-layer organic solar cells using a novel tri-layer architecture

### **Associate of Women Geoscientists Award**

- Certificate to female whose project exemplifies high standards of innovativeness and scientific excellence in geosciences

### **Twin Cities**

8071W Madeline Jensen      Grade 8      Does Temperature Effect Oil Spill Cleanup?

### **Western Suburbs**

1064T Jennifer Husen      Grade 10      Soil Porosity from Three Different Locations

### **St. Paul**

7043S Alyssa Kolb      Grade 7      Blame it on the rain

### **East Side Science Club Alumni Award**

- Medals are presented to outstanding youths that demonstrate innovation and creativeness in project development

6007S	Clara Jackson	Grade 6	Does age affect memory?
6009S	Rachel Nichols	Grade 6	Effect of Color Preference on Affective Appraisal
6025S	Elias Hoffrenning	Grade 6	Does temperature affect the strength of a magnet?
6060T	Shannon Spalding	Grade 6	do magnets erase cd's and videotapes?
7015S	Della Kurzer-Zlotnick	Grade 7	How Personal Characteristics Affect Validity of Memory
7028T	Peter Book	Grade 7	Different Chemicals and the Evaporation of Ice
7033W	Raymond Gonsior	Grade 7	How Does Acid Affect the Appearance of Copper?
7041W	Alexander Richards	Grade 7	Which of These is the Warmest Fabric?
8024S	Joe Gargaro	Grade 8	The Effect of Gender on Social Anxiety
8075T	Matt Koskie	Grade 8	Which gives a better impression cast, wet sand or soil?

8089T	Robert Mouton	Grade 8	Man Vs. Synthetic: Battle of the Insulins
8121S	Hannah Brady	Grade 8	Bright Lights! A Study of Etiolation and Filtered Light on Plants

### **Energizer Bunny Award**

- Trophy for teacher who has worked tirelessly as mentor for numerous projects

Dr. Jennifer Hugstad-Vaa Burnsville High School

### **Glen Domeier Memorial Award**

- In memory of Glen Domeier, \$50, Compass and use book to project that best demonstrates excellence in environmental science

1062W	Michael Fuad	Grade 12	Harvesting microalgae ( <i>Chlamydomonas reinhardtii</i> ) for biofuel production using wastewater treatment techniques
8076W	Alexandria Herr, Samuel Weiss	Grade 8	Wood Density and its Relation to Caloric Output

### **Graduate Women In Science Award**

- University of Minnesota Graduate Women in Science: Certificate and \$25 (in the mail)

#### **Grade 6**

6072T Adrianna Brown Grade 6 How do plants grow in different colored lights?

#### **Grade 7**

7095W Claire Walker Grade 7 Bridge Designs

#### **Grade 8**

8071W Madeline Jensen Grade 8 Does Temperature Effect Oil Spill Cleanup?

#### **Grade 9**

1067T	Megan Carlson	Grade 9	The Effect of Street Drainage on the pH level of Soil in a Suburban Marsh
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#### **Grade 10**

1021T Vicki Weiss Grade 10 The Effects of Texting While Driving

#### **Grade 11**

1027T Nicole Lee Grade 11 Mechanisms of Melanoma Migration

## Grade 12

1086T Alydia Rodriguez Grade 12 Venison Safety - Lead Concerns

## Intel Excellence in Computer Science Award

- Certificate and \$200 (check in the mail)

## Twin Cities

1038T	Michael Cherkassky	Grade 12	Biomedical Ontology Engineering via Information Theory
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## Western Suburbs

1039W	Robert Deichert	Grade 9	Computer Memory and Speed: How RAM Affects Computer Speed
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## St. Paul

1073S Martin Camacho Grade 11 Sequences of reducible 0,1 polynomials

## ISEF Alumni Awards

- Former ISEF Finalists recognizing up-and-coming young scientists

### Sponsor: Michael Lohman, Jr.: One hour in Flight Simulator

7082T Maxwell Lokrantz Grade 7 SLEEP DEPRIVATION

### Sponsor: Timara Underbakke: Certificate, \$20 cash, bronze science medal keychain

7126W Molly Knapp Grade 7 Let There be Light

### Sponsor: Kyrstin Underbakke: Certificate, \$20 cash, bronze science medal keychain

8006W Abby OBrien Grade 8 Affects of Breakfast on Test Scores

### Sponsor: Kyra Underbakke: Certificate, \$20 cash, bronze science medal keychain

7086W Ryan Connelly Grade 7 The Stress on the Knee

## ISWEEP

- Outstanding Project to Participate in International Sustainable World (Energy, Engineering, &

Environment) Project Olympiad; Houston, TX, April 15-20, 2009

1052W	Elaina Hamann	Grade 10	Can Algae Be Converted Into Biodiesel?
1053W	Michael Crump	Grade 12	Engineering thin-layer organic solar cells using a novel tri-layer architecture
1054T	Anushua Bhattacharya	Grade 9	Smart Fluids: From Automotives to Healthcare
1063W	Emily Nimmer	Grade 12	Monarch Butterflies ( <i>Danaus plexippus</i> ) as Bioindicators of Global Climate Change

### Joel Wagner Caring Bridge Award

- Trophy & \$50 to the best cancer research project

1027T Nicole Lee Grade 11 Mechanisms of Melanoma Migration

### Killeen Memorial Award

- Trophy to the student who best shows inspiration for their project

6049T Emma OKeefe Grade 6 Dangerous Decibels

### Minnesota Agriculture in the Classroom

- Certificate & \$75 check in the mail

### Project Senior High

1068W	Sahar Hakim- Hashemi and Sierra Danforth	Grade 12	Host-Range Study To Determine The Potential Of <i>Lysiphlebus Orientalis</i> As A Biological Control Agent For Exotic Invasive Soybean Aphids ( <i>Aphis Glycines</i> )
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### Project Junior High

7116T Claire Honerman Grade 7 Does Temperature Vary in Germination

### Paper Senior High

Michael Fuad	Grade 12	Harvesting microalgae ( <i>Chlamydomonas reinhardtii</i> ) for biofuel production using wastewater treatment techniques
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### Paper Junior High

Aditi Gupta Grade 8 The Rhizobium Effect

## Minnesota Astronomical Society

- Certificate & prize packet from MN Astronomical Society

6026S Rebecca Bergmann Grade 6 Micrometeorites

8052S Travis Johnson Grade 8 lunar illusion

## Minnesota Chapter of American Fisheries Society

- Certificate & Fishing equipment--Presenter Brian Stock

### Senior High

1061T Katie Rempfert Grade 11 Effects of the Corn Herbicide Acetochlor on Aquatic Life, Specifically the Species Lemna gibba

### Junior High

8003T Katherine Rusin Grade 8 Do Goldfish Have Memory?

## Minnesota Space Frontier Society Award

- Certificate & prize packet from MN Space Frontier Society

1049T	Nicholas NaSal and Joseph Lane	Grade 12	It's Getting H.A.W.T. in Here: An Analysis of the Efficiency of Various Airfoil Designs on a Horizontal Axis Wind Turbine
1055T	Martin Anderson	Grade 10	Specific Impulse of Traditional Black Powder Rocket Engines in the Pyrotechnics Industry
1090S	Pang Moua	Grade 9	Birds of Paper
1094W	Christopher Bosquez	Grade 10	single stage model rocket engine
6068S	Luke Bishop and Branick Weix	Grade 6	Sky Riders: How Different-Sized Engines Affect the Force and Speed of a Rocket
7053S	Will Wharton	Grade 7	Barrel-istic Ballistics
7059S	Lydia Newman-Heggie	Grade 7	Planes, Paper Clips, & Propellers
7103S	CJ Kramer	Grade 7	Model Rocket Meets Wind Speed
7104W	Jacob Verdoorn	Grade 7	Model Rocket Payload
7108S	Tiana Bellamy	Grade	Sintering Lunar Soil

8117T Elizabeth Readel Grade 7  
8 Which size parachute will have the longest flight time?

### **Mu Alpha Theta Award**

- Certificate for the project demonstrating the most challenging, original, thorough, and creative investigation of a problem involving mathematics

### **Twin Cities**

1038T Michael Cherkassky Grade 12 Biomedical Ontology Engineering via Information Theory

### **Western Suburbs**

1079W Stephen Trusheim Grade 12 Engineering and Validating Predictive Infection Surveillance Strategies for Methicillin-resistant Staphylococcus aureus

### **St. Paul**

1073S Martin Camacho Grade 11 Sequences of reducible 0,1 polynomials

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

- Certificate & lapel pin & chance for \$1000 (national) to the most outstanding engineering project

### **Twin Cities**

1054T Anushua Bhattacharya Grade 9 Smart Fluids: From Automotives to Healthcare

### **Western Suburbs**

1053W Michael Crump Grade 12 Engineering thin-layer organic solar cells using a novel tri-layer architecture

### **St. Paul**

7053S Will Wharton Grade 7 Barrel-istic Ballistics

### **National Oceanic and Atmospheric Administration (NOAA)**

- Certificate & medallion

### **Twin Cities**

8060T Andy Ylitalo Grade 8 Saving Energy in Buildings with a Seasonably Adjustable Window Film concept

**Western Suburbs**

8054W Kevin Barry Grade 8 Tomorrows Weather

**St. Paul**

8056S Elena Anderson Grade 8 Blowing In The Wind Wind Turbines and Electricity

**Outstanding Volunteerism Award (Nokomis Club)**

- "2009" awarded to the Nokomis Club for their plaque and many, many, many thanks for their hard work!

**Public Television Award**

- Both Dragonfly & SciGirls are programs of Public Television

**Dragonfly TV Award - Outstanding Science Communication**

6006S	Camille Smith	Grade 6	Do the opinions of others affect the opinion of one?
6075S	Liam Plambeck	Grade 6	Which Substance keeps an apple freshest and does it affect the taste?
7010W	Venessa Scott	Grade 7	Does Seeing or Hearing Instructions Affect Performance at a Task?
7017W	Erika Swant	Grade 7	Sense Charades
8065T	Thomas DAgostino	Grade 8	Thermal Conductivity of Copper vs. Polypropylene
8101R	David Campeau	Grade 8	Internal Contamination of Serrano Peppers by Salmonella Species

**SciGirls Award--Outstanding Science Communication; Excellent Science Achievement**

6004S	Nikita Salovich	Grade 6	Do people repetitively associate certain colors with pitch?
6067S	Anna Kazlauskas	Grade 6	What material blocks sound the best?
7048S	Katherine Hartnett	Grade 7	Going Green
7067W	Katie Wratkowski	Grade 7	Acid Rain
7099S	Brooke Rogers	Grade 7	How does air temperature affect air pressure?

8035S Kristina Abbas      Grade  
8      Affecting Chromatography

### Radio City Award

- Certificate & prize packet from Radio City awarded to the Best Amateur Radio project

6033T Emily Blosberg Grade 6 Amateur Radio vs Cell Phones

### Ricoh Sustainable Development Award

- Certificate to the project whose principles & technical innovations offer the greatest potential for increasing our ability to grow environmentally friendly & socially responsible businesses

### Twin Cities

1069T Jesse Acosta Grade 10 Urban Restoration In The Palm Of Your Hand

### Western Suburbs

1068W Sahar Hakim-  
Hashemi and      Grade      Host-Range Study To Determine The Potential Of  
Sierra Danforth      12      Lysiphlebus Orientalis As A Biological Control Agent  
For Exotic Invasive Soybean Aphids (Aphis Glycines)

### Society for In Vitro Biology

- Certificate to the most outstanding 11th grade student in the area of plant or animal in vitro biology or tissue culture

### Twin Cities

1076T Uyen Truong Grade 11 An Analysis of the Affect of Coke on Bone Loss

### Stockholm Junior Water Prize (SJWP)

- Certificate & eligible to enter the state SJWP competition by submitting their research paper

### Twin Cities

1061T Katie      Grade      Effects of the Corn Herbicide Acetochlor on Aquatic Life,  
Rempfert      11      Specifically the Species Lemna gibba

### Western Suburbs

1033W Daniel      Grade      Synthesizing a novel molecule to tag heavy metal cations and  
Mokhtari      11      pathogens in water supplies

1060W Lanre      Grade      Effects of Soil Compaction and Macropores on Water  
Adekola      12      Infiltration Patterns

1062W Michael Fuad Grade 12 Harvesting microalgae (*Chlamydomonas reinhardtii*) for biofuel production using wastewater treatment techniques

### Students Achieving Volunteering Excellence (SAVE)

- Certificate & \$25 cash to students whose display best communicated their experiment

#### Grade 6

6017S Elena Renken, Ruth Foster Grade 6 The Psychological Rainbow

#### Grade 7

7005S Kathleen Sheehan Grade 7 Are Lefties the Only Ones in Their Right Mind?

#### Grade 8

8068W Felicia Hamann Grade 8 Bridges

#### Grades 9-12

1052W Elaina Hamann Grade 10 Can Algae Be Converted Into Biodiesel?

### Twin Cities Regional Science Fair Award

- Prize for an excellent project

1022T	Anarae Schunk	Grade 10	Variations in Heart Rate Between Age Levels While Playing Chess
1057T	Nicholas Gobran	Grade 9	The Effect of Temperature on the Setting Time of Concrete
1084T	Sarah Hannine	Grade 10	SPF: Sunscreen Protection Fibs
6035T	Tanner Behny	Grade 6	Flying Mousetrap Car
6042S	Khiara Foss	Grade 6	How does acid rain affect the environment?
7022T	Andrew Munkelwitz	Grade 7	Absorbency of Diapers
7026W	Nick Stenglein	Grade 7	Combustion
7032S	Ariana Conroy	Grade 7	Glowsticks
7059S	Lydia Newman-Heggie	Grade 7	Planes, Paper Clips, & Propellers
7084T	Heather Stone	Grade 7	The Addition of Which Spice Makes Something Taste Sweeter?
7097W	Trevor Bartz	Grade 7	Fishing, What's Your Line?
8040S	Graham Gabrielson	Grade 8	GLUE

8053W	Reece Hoerle	Grade 8	The Effect of Filters on Water
8070S	Madeline OMeara	Grade 8	Whack It!
8084T	Miranda Olson	Grade 8	Does Red Bull Give You Wings?
8111T	David Lehn	Grade 8	Soccer ball air pressure vs. distance

### United States Air Force Awards

- Certificate, computer backpack, & MP3 player

### Twin Cities

1054T	Anushua Bhattacharya	Grade 9	Smart Fluids: From Automotives to Healthcare
1055T	Martin Anderson	Grade 10	Specific Impulse of Traditional Black Powder Rocket Engines in the Pyrotechnics Industry
1058T	Amelia Schurke	Grade 9	The Effect of Types of Insulation on Heat Loss

### Western Suburbs

1039W	Robert Deichert	Grade 9	Computer Memory and Speed: How RAM Affects Computer Speed
1051W	Tyler McNeal	Grade 10	Best Bounce for Your Buck
1052W	Elaina Hamann	Grade 10	Can Algae Be Converted Into Biodiesel?
1053W	Michael Crump	Grade 12	Engineering thin-layer organic solar cells using a novel tri-layer architecture

### St. Paul

1073S	Martin Camacho	Grade 11	Sequences of reducible 0,1 polynomials
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### United States Army Awards

- Certificate, bronze medallion, calculator, shirt

### Twin Cities

#### Best Project

1065T	Ashley Fee	Grade 10	Solar Cell Saltwater Purification
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#### Meritous Project

1038T	Michael Cherkassky	Grade 12	Biomedical Ontology Engineering via Information Theory
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1047T	Aaron Steeg	Grade 10	Wind Power with Tesla
1049T	Nicholas NaSal and Joseph Lane	Grade 12	It's Getting H.A.W.T. in Here: An Analysis of the Efficiency of Various Airfoil Designs on a Horizontal Axis Wind Turbine
1055T	Martin Anderson	Grade 10	Specific Impulse of Traditional Black Powder Rocket Engines in the Pyrotechnics Industry

### Western Suburbs Best Project

1108W	Xin Li	Grade 12	Verification and characterization of sugar-response Arabidopsis mutant gte4 for higher biofuel and soy protein production
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### Meritous Project

1026W	Madelaine Taft-Ferguson	Grade 12	Assessing the Viability of Islet Xeno-Transplants for Type-1 Diabetes
1033W	Daniel Mokhtari	Grade 11	Synthesizing a novel molecule to tag heavy metal cations and pathogens in water supplies
1079W	Stephen Trusheim	Grade 12	Engineering and Validating Predictive Infection Surveillance Strategies for Methicillin-resistant Staphylococcus aureus
1088W	Olivia Chase	Grade 9	Effects of Ultraviolet Radiation on Group A Streptococcus Bacteria
1104W	Paimon Pakzad	Grade 9	Perspective on Gravity
1105W	Paris Ebersviller	Grade 9	Phytoremediation

### St. Paul Best Project

1030S	Daniel Curtis	Grade 9	My name is Bond, Ionic Bond
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### United States Department of Agricultural Research Award

- Certificate & books

1063W	Emily Nimmer	Grade 12	Monarch Butterflies ( <i>Danaus plexippus</i> ) as Bioindicators of Global Climate Change
1104W	Paimon Pakzad	Grade 9	Perspective on Gravity
6041S	Nicole Anderson	Grade 6	Hot or Not?

6072T	Adrianna Brown	Grade 6	How do plants grow in different colored lights?
8076W	Alexandria Herr, Samuel Weiss	Grade 8	Wood Density and its Relation to Caloric Output
8126W	Aditi Gupta	Grade 8	The Rhizobium Effect

### United States Department of Health and Human Services

- Certificate signed by the Surgeon General

#### Twin Cities

1082T	Alexander Ebertowski	Grade 10	High School Athletes Hearts: Are They Better Conditioned than Non-athletes Hearts?
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#### Western Suburbs

8092W	Charlie Carlson	Grade 8	Organic Vs. Non-Organic
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#### St. Paul

8087S	Morgan Maidl	Grade 8	HEART RATE AND EXERCISE
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### United States Forest Service Excellence Award

- For outstanding projects related to the natural environment

7067W	Katie Wratkowski	Grade 7	Acid Rain
8076W	Alexandria Herr, Samuel Weiss	Grade 8	Wood Density and its Relation to Caloric Output
8077S	Harry Broderick	Grade 8	Comparing the water quality in isolated lakes with lakes connected to other bodies of water.

### United States Metric Association

- Certificate

#### Twin Cities

1103T	Tiffanie Stone	Grade 11	How Smart Is The Common Bean: Assessing Bean Plant Ability To Differentiate Between A Moderate Nitrogen Fixer And An Ideal Nitrogen Fixer
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#### Western Suburbs

1101W Eric Hanson, Nina Zeng, and Gaurav Kandlikar      Grade 11      Examining the Viscosity of non-Newtonian Fluids

### St. Paul

1090S Pang Moua Grade 9 Birds of Paper

### United States Navy/Marines

- Certificate & \$50 check (in the mail)

### Twin Cities

1038T Michael Cherkassky      Grade 12      Biomedical Ontology Engineering via Information Theory

1048T Scott Wheeler      Grade 10      Wind Turbines at Work

1056T Brigid Kelly      Grade 9      The Effect of Pier Placement on the Compression and Tension on a Pratt Through Truss Bridge

### Western Suburbs

1039W Robert Deichert      Grade 9      Computer Memory and Speed: How RAM Affects Computer Speed

1044W Adam Houle      Grade 10      How Does Launch Angle Affect Distance

1052W Elaina Hamann      Grade 10      Can Algae Be Converted Into Biodiesel?

1053W Michael Crump      Grade 12      Engineering thin-layer organic solar cells using a novel tri-layer architecture

### St. Paul

1073S Martin Camacho Grade 11 Sequences of reducible 0,1 polynomials

### University of Minnesota Department of Writing Studies Award

-Certificate & gift bag: For excellence in scientific & technical communication, document & display design

1052W Elaina Hamann Grade 10 Can Algae Be Converted Into Biodiesel?

### University of Minnesota Institute of Technology College

- Scholarship for the summer camp Exploring Careers in Engineering and the Physical Sciences

1031T	Kern Wilson	Grade 9	Potassium Levels of Non-Local Versus Local Apples
1050T	Shannon Clifford and Kaylyn Webb	Grade 11	Why did my wheel fall of my car?
1066T	Hawi Teizazu	Grade 10	The Effect of Sound on the Leaf Width, Stem Thickness, and Height of Plants
1095T	Alyssa Trang	Grade 10	The Analysis and Correlation of Physics and Dance
1100T	Cassie Boehm	Grade 9	The effect of varied measures of the cradle arc of a lacrosse stick on how well the ball stays in the pocket of the stick.

### **West Metro Medical Society Alliance Award**

- Certificate & \$100 for health or medicine project

#### **Senior High**

1084T Sarah Hannine Grade 10 SPF: Sunscreen Protection Fibs

#### **Junior High**

6047S Andrew Kolar Grade 6 Asthma and Exercise:Life and Breath

### **Yale Science and Engineering Association, Inc.**

- Certificate for an 11th grade student in computer science, engineering, physics, or chemistry

#### **Twin Cities**

1050T Shannon Clifford and Kaylyn Webb Grade 11 Why did my wheel fall of my car?

#### **Western Suburbs**

1033W Daniel Mokhtari Grade 11 Synthesizing a novel molecule to tag heavy metal cations  
and pathogens in water supplies

#### **St. Paul**

1073S Martin Camacho Grade 11 Sequences of reducible 0,1 polynomials

### **Team Awards-presented to the best teams in each section**

- Trophy for each team member

1068W Sahar Hakim-Hashemi and Sierra Grade 12 Host-Range Study To Determine The Potential Of  
Lysiphlebus Orientalis As A Biological Control Agent

	Danforth		For Exotic Invasive Soybean Aphids (Aphis Glycines)
6068S	Luke Bishop and Branick Weix	Grade 6	Sky Riders: How Different-Sized Engines Affect the Force and Speed of a Rocket
7063T	Luis Guzman and Jonah Shaw	Grade 7	How does incident light intensity and angle of incidence affect the solar cell output?
8076W	Alexandria Herr, Samuel Weiss	Grade 8	Wood Density and its Relation to Caloric Output

### Project Medalist - Outstanding projects in Sixth Grade

- Medal

6004S	Nikita Salovich	Grade 6	Do people repetitively associate certain colors with pitch?
6019T	Ty Gale	Grade 6	Crystal Vs. Chemical: Who will Win?
6027T	Craig Nielsen	Grade 6	Science For Flakes
6033T	Emily Blosberg	Grade 6	Amateur Radio vs Cell Phones
6041S	Nicole Anderson	Grade 6	Hot or Not?
6056S	Elle France and AnnaRose Schneider	Grade 6	Fun in the Sun (Or is it?)
6067S	Anna Kazlauskas	Grade 6	What material blocks sound the best?
6068S	Luke Bishop and Branick Weix	Grade 6	Sky Riders: How Different-Sized Engines Affect the Force and Speed of a Rocket
6074S	Laura Christenson	Grade 6	Which natural product creates the brightest, most durable dye?
6075S	Liam Plambeck	Grade 6	Which Substance keeps an apple freshest and does it affect the taste?

### Project Medalist - Outstanding projects in Grades 7-12

- Medal

1038T	Michael Cherkassky	Grade 12	Biomedical Ontology Engineering via Information Theory
1054T	Anushua Bhattacharya	Grade 9	Smart Fluids: From Automotives to Healthcare
	Martin	Grade	

1073S	Camacho	11	Sequences of reducible 0,1 polynomials
1079W	Stephen Trusheim	Grade 12	Engineering and Validating Predictive Infection Surveillance Strategies for Methicillin-resistant Staphylococcus aureus
1103T	Tiffanie Stone	Grade 11	How Smart Is The Common Bean: Assessing Bean Plant Ability To Differentiate Between A Moderate Nitrogen Fixer And An Ideal Nitrogen Fixer
1104W	Paimon Pakzad	Grade 9	Perspective on Gravity
8050T	James Kruse	Grade 8	Does Protein Exist In The Soft Tissue Found In Mosasaur Teeth?
8060T	Andy Ylitalo	Grade 8	Saving Energy in Buildings with a Seasonably Adjustable Window Film concept
8119S	Anastasia Macey	Grade 8	Are city streets killing my trees?
8126W	Aditi Gupta	Grade 8	The Rhizobium Effect