

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? |
|-------|--------------------------|---------|---|

Silver Level-Plaque

Alliant Techsystems

| | | | |
|-------|-------------------------|----------|---|
| 1026W | Madelaine Taft-Ferguson | Grade 12 | Assessing the Viability of Islet Xeno-Transplants for Type-1 Diabetes |
|-------|-------------------------|----------|---|

Slattery Sales Group

| | | | |
|-------|--------------|----------|---|
| 1062W | Michael Fuad | Grade 12 | Harvesting microalgae (<i>Chlamydomonas reinhardtii</i>) for biofuel production using wastewater treatment techniques |
|-------|--------------|----------|---|

Mintahoe Hospitality Group

| | | | |
|-------|---------------|---------|---|
| 8101R | David Campeau | Grade 8 | Internal Contamination of Serrano Peppers by Salmonella Species |
|-------|---------------|---------|---|

St. Paul Youth Fund

| | | | |
|-------|------------|----------|-----------------------------|
| 1005S | Chee Xiong | Grade 12 | Crazy Texting While Driving |
|-------|------------|----------|-----------------------------|

Midway Party Rental

| | | | |
|-------|------------------|---------|---|
| 8048W | Emily Cherkassky | Grade 8 | A computer method for clustering European languages |
|-------|------------------|---------|---|

Gold Level-Plaque

FilmTec Corporation/Dow Chemical

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

University of Minnesota

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

Platinum Level-Plaque

3M Foundation

| | | | |
|-------|----------|-------|---|
| 1074T | Prithwis | Grade | A Common Food Additive Induces Cell Migration and Neoplastic Phenotype of Mammary Epithelial Cells by |
|-------|----------|-------|---|

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 |
| 1022T | Anarae Schunk | Grade 10 | Variations in Heart Rate Between Age Levels While Playing Chess |
| 1023T | Stephen Risk | Grade 9 | Word Count |
| 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 |
| 1040W | Mike Pruszinske | Grade 10 | A Revolution in Hydropower |

| | | | |
|-------|---|----------|---|
| 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 of 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 Engineering and Validating Predictive Infection |

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|-------|--|----------|---|
| 1079W | Stephen Trusheim | Grade 12 | 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? |
| 7010W | Venessa Scott | Grade 7 | Does Seeing or Hearing Instructions Affect Performance at a Task? |
| 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 |

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|-------|---------------------|------------|--|
| 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 |
| 7059S | Lydia Newman-Heggie | Grade 7 | Planes, Paper Clips, & Propellers |
| 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 |
| 7086W | Ryan Connelly | Grade 7 | The Stress on the Knee |
| 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? |
| | | Grade | |

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|-------|----------------------------------|------------|--|
| 8012S | Charlie Nelson | 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? |
| 8054W | Kevin Barry | Grade 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 |
| 8101R | David Campeau | Grade 8 | Internal Contamination of Serrano Peppers by Salmonella Species |
| 8105W | Daniel Nugent | Grade 8 | Color Light vs. Fog |

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|-------|---------------------|------------|---|
| 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 |

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 |
|------------------|-------------|--|

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 |
|--------------------------|-------------|---|

3rd Place Trophy

| | | |
|----------------------|---------|--|
| Anushua Bhattacharya | Grade 9 | Smart Fluids: From Automotives to Healthcare |
|----------------------|---------|--|

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 | Grade | Color Blindness and Learning Abilities in Horses |

| | | |
|-----------------|----------|---|
| Sobczak | 11 | |
| 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 musical 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 8 | A computer method for clustering European languages |
| 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

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?
Grade

| | | | |
|-------|-----------------------|---------|---|
| 6009S | Rachel Nichols | 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

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

Western Suburbs

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

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 Lysiphlebus Orientalis As A Biological Control Agent For Exotic Invasive Soybean Aphids (Aphis Glycines) |
|-------|---|----------|---|

Project Junior High

7116T Claire Honerman Grade 7 Does Temperature Vary in Germination

Paper Senior High

| | | |
|--------------|----------|--|
| Michael Fuad | Grade 12 | Harvesting microalgae (Chlamydomonas reinhardtii) for biofuel production using wastewater treatment techniques |
|--------------|----------|--|

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

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|-------|--------------------|-------|---|
| 1049T | Nicholas NaSal and | Grade | It's Getting H.A.W.T. in Here: An Analysis of the Efficiency of Various Airfoil Designs on a Horizontal |
|-------|--------------------|-------|---|

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|-------|------------------------------|----------|--|
| | Joseph Lane | 12 | 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 7 | Sintering Lunar Soil |
| 8117T | Elizabeth Readel | Grade 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

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

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

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|-------|----------------|----------|--|
| 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?

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| 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

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|-------|-----------------------|------------|--|
| 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

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|-------|--|-------------|---|
| 1068W | Sahar Hakim- Hashemi and Sierra Danforth | Grade 12 | Host-Range Study To Determine The Potential Of 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 Rempfert Grade 11 Effects of the Corn Herbicide Acetochlor on Aquatic Life, Specifically the Species Lemna gibba

Western Suburbs

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

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

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|-------|---------------------|----------|---|
| 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

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|-------|----------------------|----------|--|
| 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

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|-------|-----------------|----------|---|
| 1039W | Robert Deichert | Grade 9 | Computer Memory and Speed: How RAM Affects Computer Speed |
| 1051W | Tyler McNeal | Grade 10 | Best Bounce for Your Buck |

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| 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

United States Army Awards

- Certificate, bronze medallion, calculator, shirt

Twin Cities

Best Project

1065T Ashley Fee Grade 10 Solar Cell Saltwater Purification

Meritous Project

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

Meritous Project

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|-------|-------------------------|----------|---|
| 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 |

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| 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

United States Department of Agricultural Research Award

- Certificate & books

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|-------|----------------------------------|-------------|---|
| 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

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| 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

St. Paul

8087S Morgan Maidl Grade 8 HEART RATE AND EXERCISE

United States Forest Service Excellence Award

- For outstanding projects related to the natural environment

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|-------|----------------------------------|------------|--|
| 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

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| 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

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

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| 1090S | Pang Moua | Grade 9 | Birds of Paper |
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United States Navy/Marines

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

Twin Cities

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|-------|-----------------------|-------------|---|
| 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 |

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| 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

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| 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 off 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 |
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St. Paul

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