

Statistics for 2015 TCRSF

At TCRSF, 548 students registered for projects & 226 for papers = 774 student registrations (598 unique students)

TCRSF projects, 218 students presented 184 HS projects,
330 students presented 295 middle school projects,
548 total students presented 479 total projects

TCRSF papers: 40 middle school students competed with 39 middle school papers (1 team paper) and
186 high school students competed with 174 high school papers (12 team papers).
226 total students competed with 213 total research papers (total of 13 team papers).

Competing at state from TCRSF: (projects, not students; team project counts as one)

6th grade: 19/ 66 projects = 28.8% of 6th grade projects from TCRSF to state

7th grade: 31/ 119 projects = 26.1% of 7th grade projects from TCRSF to state

8th grade: 24/ 110 projects = 21.8% of 8th grade projects from TCRSF to state

Middle school: 74/295 projects = 25.1% of middle school projects from TCRSF to state

High School: 65/184 projects = 35.3% of high school projects from TCRSF to state

Total of 139 / 479 total projects = 29.0% sent to state overall

Competing at state middle school papers: 18/39 (only grades 6-8) = 46.2% of those able to advance and

Competing at Tri-State JSHS for high school papers: 34/174 papers = 19.5% of all HS papers to advance

Our TCRSF students competed extremely well at the Minnesota State Science and Engineering Fair. TCRSF students earned many, many awards at state, including both the best 7th grade research paper in the entire state and 9 gold grand awards (in top 5% of entire fair) and all 4 projects (6 students) sent as finalists to compete at international from state are from our fair, as well as 2 of the 3 alternates (3 students) to ISEF!

48 students middle school students advanced from TCRSF (top 10% of each affiliation) and **5 TCRSF students** advanced from the state science fair to compete in the **National Broadcom MASTERS** (grades 6-8) competition. In the past, TCRSF has had a national Broadcom MASTERS winner in both 2011 & 2012 and a national winner student in the 3M Discovery Challenge in the fall of 2012 based on her 2012 project. The competition is still ongoing until fall for 2015. In 2014, we had **4 students** earn **national semifinalist** status in Broadcom MASTERS (4 of the top 300 in the nation):

Emilia Frances Topp-Johnson (grade 8), Friends School of Minnesota in St. Paul, with her project entitled:
"Behind the Kernels: A Study of Five Fungal Endophytes and their Use in Biocontrol against the Common Maize Pathogen, *Ustilago maydis*"

Karthik Papisetty (grade 7), Wayzata Central Middle School in Plymouth with his project entitled:
"Natural Hazard Risk Model for Different Countries in the World"

Brittney Madyson Kuntz (grade 7) Calvin Christian School in Edina with her project entitled:
"Differences in Chloride Concentration Levels in an Urban Stream by Season and Site"

Avni Jain (grade 7), Central Middle School, Eden Prairie with her project entitled
"Allergen Alert! An Innovation to Assist People with Finding Safe Food Choices"

At the Tri-state (MN, ND, & SD) North Central Regional Jr. Science & Humanities Symposium (JSHS, research paper competition), TCRSF students earned 6 out of 10 tri-state achievement awards and **3 high school research papers advanced to National JSHS: (TCRSF took 1st, 4th & 5th place at Tri-state competition to advance to nationals!) At National JSHS, one of our students took 3rd place in chemistry winning a \$4,000 scholarship** in addition to other awards won:

Carolyn Jons (grade 11), Eden Prairie High School with her paper entitled:
Improved Efficiency of Seawater Steam Generation Using Carbon Nanoparticles

At International Science & Engineering Fair (ISEF), TCRSF sent 7 projects to compete (3 from Twin Cities, 2 from Western Suburbs, & 2 from St Paul) - plus we named 6 alternate projects (3 individual & 3 teams of 2) – All 7 ISEF finalists competed at ISEF in Pittsburgh, PA and 7 alternates attended ISEF. From state science fair, Twin Cities had **2 more individual finalists & 4 more team member finalists. That means TCRSF took ALL of the top spots to ISEF from state this year! Additionally, at the national Native American Indian science fair, 2 of the 3 projects sent to compete at ISEF were from our TCRSF! A total of 11 individual projects and 2 team projects competed at international (ISEF) from one of our TCRSF affiliations or from the state affiliation or from the national Native American – American Indian Science & Engineering Society).**

TCRSF named **5 projects** to compete at ISWEEEP (**International Sustainable World Energy Engineering Environment Project Olympiad**) held in Houston, TX – and **2 additional projects** from TCRSF applied and were accepted into the competition on their own.

At ISEF (International Science and Engineering Fair – the best in the world!):

Second Grand Award of \$1,500 in Energy - Chemistry

EGCH015 Landfill to Car Fuel: Using Surfactants to Increase Cellulosic Ethanol Production from Waste Paper
Maxwell Ylitalo, Stillwater Area High School, Stillwater, Minnesota

Third Grand Award of \$1,000 in Material Science

MATS008 Improved Efficiency of Seawater Steam Generation Using Carbon Nanoparticles
Carolyn Jons, Eden Prairie High School, Eden Prairie, Minnesota

Florida Institute of Technology - Full Tuition Presidential Scholarship valued at approximately \$150,000

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National Aeronautics and Space Administration – Honorable Mention award

MATS008 Improved Efficiency of Seawater Steam Generation Using Carbon Nanoparticles
Carolyn Jons, Eden Prairie High School, Eden Prairie, Minnesota

At ISWEEEP (International Sustainable World Energy Engineering Environment Project Olympiad)

Silver medal Environment- Management & Pollution

Grant Two Bulls, grade 12, Breck School, project entitled:

Effects of early Mdewakanton Dakota settlement patterns on the ecology of Lake Calhoun

Honorable Mention in Environment- Management & Pollution

Andrew Barton, grade 9, Oakland Jr. High School, Stillwater, project entitled:

Are the BWCA Lakes Affected By Acid Rain and Can Acidic Lakes Be Restored Using Calcium Carbonate?

At National Junior Science and Humanities Symposium

3rd Place in Chemistry - \$4,000 scholarship

Carolyn Jons, grade 11, Eden Prairie High School, with her paper & symposium presentation:

Improved Efficiency of Seawater Steam Generation Using Carbon Nanoparticles

Fall 2015 – Five of our students were named **National Semifinalists in the 2015 Broadcom MASTERS** (5 of the top 300 middle school projects in the nation were from our fairs!!!)