

Statistics for 2016 TCRSF

At TCRSF, 552 students registered for projects & 238 for papers = 790 student registrations (621 unique students)

TCRSF projects, 241 students presented 194 HS projects,
311 students presented 272 middle school projects,
552 total students presented 466 total projects

TCRSF papers: 31 middle school students competed with 31 middle school papers (no team papers) and
207 high school students competed with 190 high school papers (17 team members on papers).
238 total students competed with 221 total research papers (total of 16 2-person & 1 3-person papers).

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

6th grade: 13/ 58 projects = 22.4% of 6th grade projects from TCRSF to state

7th grade: 16/ 88 projects = 18.2% of 7th grade projects from TCRSF to state

8th grade: 32/ 126 projects = 25.4% of 8th grade projects from TCRSF to state

Middle school: 61/272 projects = 22.4% of middle school projects from TCRSF to state

High School: 63/194 projects = 32.5% of high school projects from TCRSF to state

Total of 124 / 466 total projects = 26.6% sent to state overall

Competing at state middle school papers: 18/31 (only grades 6-8) = 58.1% of those able to advance and

Competing at Tri-State JSHS for high school papers: 42/190 papers = 22.1% of all HS papers to advance

Our TCRSF students competed extremely well at the Minnesota State Science and Engineering Fair. TCRSF students earned many awards at state, including the Seagate Rising Star award for MS & for HS. Our MS research paper competitors took 9 of the 18 top MS paper awards at state – including the best paper in grade 7 & the best paper in grade 8! 15 of the 28 named at state to Broadcom MASTERS are our students – which means over half of the top 10% of MS projects that competed at state are from TCRSF. Two of the 5 HS projects sent to ISEF from state were from TCRSF and the alternate to ISEF from state was from TCRSF.

40 students middle school students advanced from TCRSF (top 10% of each affiliation) and **15 TCRSF students** advanced from the state science fair to compete in the **National Broadcom MASTERS** (grades 6-8) competition, with national winners announced in the fall. In 2015, we had **5 students** earn **national semifinalist** status in Broadcom MASTERS (5 of the top 300 in the nation):
(2016 winners will be named in the fall of 2016)

Valerie Bares, *Grade: 8* Murray Middle School, Saint Paul, Minnesota, with her project entitled:

“How Do the Wood Anatomical Properties of Different Plant Species Affect their Ability to Filter Water?”

Hannah Farmer, *Grade: 7*, Stillwater Junior High School, Stillwater, Minnesota, with her project entitled:

“Crumb Catching Cereal Bag”

Lauren Hedman, *Grade: 7*, Calvin Christian School, Edina, Minnesota, with her project entitled:

“The Effect of NaCl on Grass Seed Germination”

Max Vogel, *Grade: 7*, Oak-Land Jr. High School, Lake Elmo, Minnesota, with his project entitled:

“Got Gas: Does Ethanol Live up to its Reputation as a Clean Burning Energy Efficient Fuel Additive?”

Kerui Yang, *Grade: 7*, Valley View Middle School, Edina, Minnesota, with her project entitled:

“How Icing on Wind Turbine Blades Affects Power Generation”

At the Tri-state (MN, ND, & SD) North Central Regional Jr. Science & Humanities Symposium (JSHS, research paper competition), TCRSF students earned several awards and **2 high school research papers advanced to National JSHS**.

TCRSF named **5 projects** to compete at ISWEEEP (**International Sustainable World Energy Engineering Environment Project Olympiad**) held in Houston, TX – and **3 additional projects** from TCRSF applied and were accepted into the competition on their own for a **total of 8 projects (10 students)**. TCRSF students won a gold, two silvers, a bronze, and two honor awards plus two special awards at ISWEEEP.

At International Science & Engineering Fair (ISEF), TCRSF sent 8 projects to compete (3 from Twin Cities, 3 from Western Suburbs, & 2 from St Paul) - plus we named 7 alternate projects (6 individual & 1 team of 2) – All 8 ISEF finalists competed at ISEF in Phoenix, AZ and all 7 of our alternates attended ISEF, 5 as alternates, and 2 became a finalist project to compete sent by state. From state science fair, Twin Cities had **2 team projects named as finalists**, and 1 team project named as alternate from state.

At ISEF (International Science and Engineering Fair – the best in the world!), TCRSF named 8 projects (9 students) to compete and 2 more of our projects were named to ISEF from state (4 students) for a total of 10 TCRSF projects with 13 students competing.

Awards won by TCRSF students who competed at ISEF:

A project entitled “*Predicting a Cancerous Outcome: Creating a Novel Test for Assessing Risk of Human Papilloma Virus-Associated Oropharyngeal Cancer*” in the Translational Medical Science category, by Prashant Godishala & Brennan Clark won:

Intel ISEF **Best of Category Award of \$5,000** in Translational Medical Science

Intel ISEF **First Grand Award of \$3,000** in Translational Medical Science

Ceres program asteroid named for student

Intel Foundation **Cultural and Scientific Visit to China Award** (10 day trip)

Sigma Xi, The Scientific Research Society Second Life Science Award of \$1,000

A project entitled “*Turning Probiotics into Antibiotics: Engineering a Broad-Spectrum Antibacterial Probiotic via Inclusion of Antimicrobial Peptide-Encoding DNA, Year Two*” in Biomedical Engineering category by Madeline McCue & Evelyn McChesney won:

Intel ISEF **Second Grand Award of \$1,500** in Biomedical Engineering

Ceres program asteroid named for student

A project entitled “*Window to the Brain: Using Retinal Biomarkers to Diagnose Alzheimer’s Disease*” in Computational Biology & Bioinformatics category by Archana Murali & Elena Berman won:

Intel ISEF **Second Grand Award of \$1,500** in Computational Biology & Bioinformatics

Ceres program asteroid named for student

A project entitled “*Inexpensive, Portable Glucose Monitor for Diabetics via a Crosslinked Sensing Fluid*” in Computational Biology & Bioinformatics category by Serena Jing won:

Intel ISEF **Fourth Grand Award of \$500** in Biomedical Engineering

China Association for Science and Technology (CAST) Award of \$1,200

A project entitled “*Change in Algae Growth Using Supplemental Carbon Dioxide*” in Earth & Environmental Sciences category by Claire Wentzlaff won:

A **comprehensive college scholarship** combining a monetary award and an environment focusing on knowledge, learning and research to **Arizona State University**, renewable for four years.

All ISEF finalists who competed won the all-expense paid trip to compete in Phoenix, Arizona and a finalist medal & certificate plus Wolfram Mathematica software.