Statistics for 2013 TCRSF

At TCRSF, 590 students registered for projects & 191 for papers = 781 student registrations
(654 unique students)

TCRSF projects, 191 students presented 160 HS projects,
399 students presented 374 middle school projects,
590 total students presented 534 total projects
34 projects requested electricity project requested, 3 floor

TCRSF papers: 51 middle school students competed with 50 middle school papers (one team paper) and
140 high school students competed with 137 high school papers (three team papers).
191 total students competed with 187 total research papers (total of four team papers).

Competing at state from TCRSF: (projects, not students; team project counts as one)
6th grade: 9/ 79 projects = 11.4% of 6th grade projects from TCRSF to state
7th grade: 27/ 157 projects = 17.2% of 7th grade projects from TCRSF to state
8th grade: 17/ 138 projects = 12.3% of 8th grade projects from TCRSF to state
Middle school: 53/374 projects = 14.2% of middle school projects from TCRSF to state
High School: 60/160 projects = 37.5% of high school projects from TCRSF to state
Total of 116 / 534 total projects = 21.7% sent to state overall

Competing at state middle school papers: 10/50 (only grades 6-8) = 20.0% of those able to advance and
Competing at Tri-State JSHS for high school papers: 31/137 papers = 22.6% of all HS papers to advance

National Broadcom MASTERS (grades 5-8): **47 students advanced from TCRSF** (top 10% of each affiliation) and **7 TCRSF students** advanced from the state science fair. We had a national Broadcom MASTERS winner in both 2011 & 2012, and the students are still competing for 2013.

We had a national winner student in the 3M Discovery Challenge in the fall of 2012 based on her 2012 project.

At the Tri-state regional Jr. Science & Humanities Symposium (JSHS, research paper competition),
Advancing to National JSHS: (TCRSF took 3/5 top awards!)
3rd place – Heather Stone (will compete in poster competition at National JSHS)
4th place – Aditi Das (observer & participant in team activities at National JSHS)
5th place – Jenny Lai (observer & participant in team activities at National JSHS)

Our TCRSF students competed extremely well at the Minnesota State Science and Engineering Fair. Statistics have not yet been made available, but TCRSF students earned many, many awards at state!

At International Science & Engineering Fair (ISEF), TCRSF has 8 individual projects (3 from Twin Cities, 3 from Western Suburbs, & 2 from St Paul) - plus we named 6 alternate projects (4 individual & 2 teams of 2 projects) – All 8 ISEF finalists will compete at ISEF and several alternates will attend ISEF. From state science fair, Twin Cities had 3 more individual finalists (out of the 4 projects named to ISEF from state) and two state alternates to ISEF (out of 2). **That means TCRSF took 5/6 of the top spots to ISEF from state! A total of 10 individual projects and one team project will compete at international (ISEF) from one of our TCRSF affiliations or from the state affiliation.**

TCRSF named 3 projects to compete at ISWEEEP – and additional projects from TCRSF applied and were accepted into the competition on their own.

We had two semifinalists in the **national Broadcom MASTERS** (grades 6-8) competition this year (top 300 in the nation). Our semifinalists: Andrew Barton and Sarah Betts:

Andrew Barton was in grade 7, Oakland Jr High (T), with project “An Inspiration from Norman Borlaug: A Study of Organic Fertilizers and Soil Types on Triticum Aestivum (Spring Wheat) Production”

Sarah Betts was in grade 7, Our Lady of Grace (W), with project “An Exercise Therapy Program and Hand Device Invented To Benefit Osteoarthritic Patients” – Sarah was also a national semi-finalist last year as a 6th grader.

International competition awards won by our students are listed on page 2 of this document.

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

4th Grand in Behavioral Sciences - $500

BE310 Birth of a Revolution: A Global Model for Forecasting Political Instability
Abhishek Nayar, 16, Edina High School, Edina, Minnesota
Stephen Hanjun Kim, 18, Edina High School, Edina, Minnesota

3rd Grand in Computer Sciences - $1000.and
IEEE Computer Society 1st Place - $1000
CS012 A Topographic Pressure Equalization Approach to Facility Assignment with Capacity Constraints for Disaster and Emergency Response
Apurv Hirsh Shekhar, 16, The Blake School, Minneapolis, Minnesota

4th Grand in Computer Sciences - $500
Go Daddy Forward Thinker Award - $1,500
CS067 A Telemedicine Tool for Monitoring Parkinson's: Using Microsoft Kinect to Engineer the Parkinsons Proto Tracker
Darius Witold Bieganski, 17, Breck School, Golden Valley, Minnesota

3rd Grand in Engineering: Materials & Bioengineering - $1000 and
American Association of Pharmaceutical Scientists – 3rd place award of $1000
EN006 Enhanced Drug Delivery via PEG-crosslinked Mucin Hydrogels
Connor Vo Duffy, 16, Mounds View High School, Arden Hills, Minnesota

3rd Grand in Plant Sciences - $1000
PS006 Building New Agrobacterium Strains for High Efficiency Transformation of Plants
Aditi Das, 16, Roseville Area High School, Roseville, Minnesota

Society of Exploration Geophysicists Certificate of Honorable Mention
PH020 The Effect of Molar Mass of a Gas on the Speed of a Sound Wave
Graham Lewis Gabrielson, 18, Saint Paul Harding Senior High School, Saint Paul, Minnesota

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

Silver medal - $300
Title: Engineering VoltX, A Multifunctional Teleoperated Rescue Robot
Category: Senior / Engineering
Country: USA - Minnesota
Contestants: Jason Sylvestre

Bronze medal - $150
Title: The Origins of Life: Engineering a Biosphere to Study Phospholipid Self-assembly
Category: Senior / Engineering
Country: USA - Minnesota
Contestants: Elliott Weiler

Silver medal - $300
Title: Food or Fuel? Can Arrowroot or Cassava Replace Corn in the Production of Ethanol?
Category: Senior / Energy
Country: USA - Minnesota
Contestants: Max Ylitalo

Bronze medal - $150
Title: Characteristics that Contribute to Nest Success of Endangered Red-headed Woodpeckers (Melanerpes erythrocephalus)
Category: Senior / Environment
Country: USA - Minnesota
Contestants: Paige Dempsey