



## DR. NELSON YING TRI REGION SCIENCE AND ENGINEERING FAIR

### Dr. Nelson Ying Tri Region Science and Engineering Fair Fact Sheet

- The *Dr. Nelson Ying Tri Region Science and Engineering Fair* (Ying TRSEF) is held each March in Syracuse, NY. Fair Weekend includes four separate competitions: the Ying Scholar scholarship finals; the NYS Overly Complicated Challenge for all ages; the NYS Rube Goldberg Machine Challenge for grades 5-12 and college teams; and the Ying TRSEF, with presentation and judging of middle and high school students' science projects, judge registration, training and deliberation, and public viewing. The fair offers professional development workshops when requested. We close with the Awards Ceremony for all four events. Hundreds of participants, judges, parents, teachers, mentors, and guests make our Science Fest a weekend for all to remember.
- The Ying TRSEF offers participation to over 250,000 middle and high school students across its twenty-five counties in Upstate New York State and advances students to the Intel International Science and Engineering Fair, the Broadcom Masters, the Genius Olympiads, and the Stockholm Junior Water Prize.
- Judges for our Senior Research / Engineering Design (RED) high school students hold degrees in science or engineering, education or law, representing corporate, academic and professional organizations across the state. Junior RED Judges for middle school students include adults and college students who are interested in science and/or education, and eager to encourage young people to use their minds. Topic Presenters grades 5-12 do an extensive report on a topic in one of the STEM fields – **Science, Technology, Engineering or Mathematics** – and prepare a presentation. Judges interview those students as well, so they gain real practice with the Judging Process.
- Every Science Fair student and Topic Presenter receives a *Certificate of Participation*. One-third to half of all participants also receive *Honors, High Honors, or Highest Honors*. Fair participants are eligible as well for *Special Awards* sponsored by colleges, business, industry and government. Senior Level students for three projects will represent the Ying TRSEF as Finalists in the *Intel International Science & Engineering Fair*.
- Why are science fairs important? Because students need to explore their talents and challenge their minds in the STEM fields just as they do in languages, writing, music and sports. Our regional science fair gives schools and families a straightforward and cost-effective way to do just that. The student's experience can ignite a passion that will become a career; the mentor's role becomes the passing of the torch of STEM knowledge to a future scientist or engineer.
- See the reverse to learn why the Ying TRSEF is so important to Upstate New York and the future of STEM education! With the 2012 award by Dr. Ying of a quarter of a million dollars to open our endowment and guarantee permanent support for the Ying TRSEF, that future is truly astounding!

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*The Ying TRSEF is a 501(c)3 nonprofit association affiliated with the Intel International Science and Engineering Fair (IISEF).*

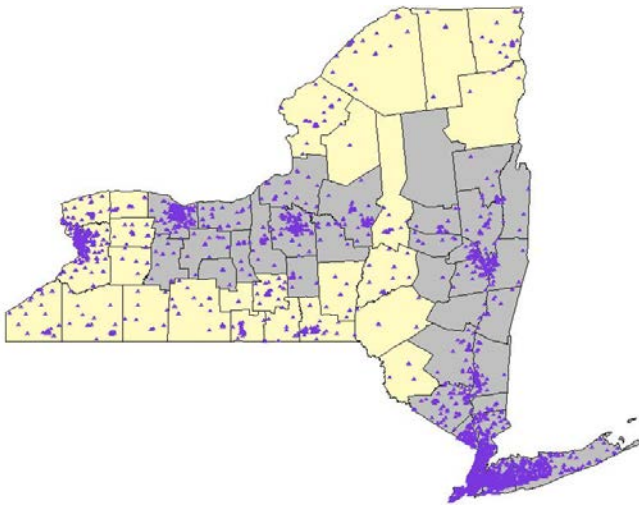


Fig. 1. New York State schools. Districts noted as ▲'s; Ying TRSEF counties are in yellow, and include high-density areas in Erie, Broome and Niagara Counties.

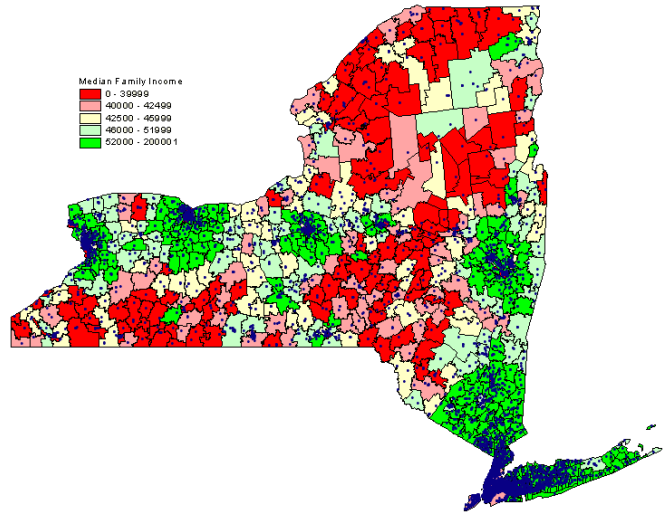


Fig. 2. NYS Public Schools and Unified School Districts correlated with median family incomes and again marking schools with ▲'s. Note the concentration of incomes below \$43,000 (red and rose) in districts served by the Ying TRSEF!

Both maps from Source Proximity – <http://proximityone.com/nyschools.htm> – based on data provided by schools, districts, and Census 2000.

Our youth hold great potential, but we cannot tap it without opening the door to real world experience using what students learn in science and math classes to *do real science and engineering!* Outstanding school-based programs exist – Science Research in the High School and Project Lead the Way, to name only two – but they require heavy district investment. Inspiring team-based competitions exist, but limited staff time and shrinking district and local corporate budgets can thwart participation.

Look at the median family incomes in Fig.2, to see swaths of school districts challenged in even more ways. For over fifty years, SOME New York State students have gone to their regional science fair. They lived near Rochester, Syracuse, Utica and Albany, or Downstate. Those in 25 other counties across Upstate? Orphaned. Totally out of the loop of regional science fairs, of reasons to find mentors, of the challenge to work hard and own one's learning, of access to scholarships and other awards that celebrate determination, imagination and achievement.

Since 2006, the Ying TRSEF has offered a cost-effective means to make precollegiate science research and its rewards available to over 250,000 students. We work to reduce transportation costs, and even provide teacher grants and scholarships for online mentoring. In turn, individuals – parents, teachers, administrators, merit badge counselors, 4-H leaders, retired teachers, local doctors and lab technicians, engineers and union members – gain a network that promotes their stepping forward and on a personal scale making a difference now and for the future. NOW we can ignite the passion of young people and recruit the talents of adults by using the Ying TRSEF.

Our goal? To provide young people who dream of inventing new solar cells or curing cancer the same opportunity that football and trumpet dreamers have – to try on their future while still in school. To see if they have what it takes to reach their goals, and to help them dream bigger and climb higher.

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