Newsday

Hard work pays off Nine LI teens picked as regional finalists in contest Next, they'll face two more rounds of judging Most projects involve a year or more of research

BY JOHN HILDEBRAND
28 October 2009

As teenage science whizzes introduced themselves at a Stony Brook University workshop last summer, Michelle Leonetti of Long Beach found herself impressed with the attitude of a fellow 12th-grader from East Meadow.

At one point, the other student, Salonee Shah, described her frustration at scoring what she considered a wholly inadequate 94 out of 100 on an Advanced Placement test in physics.

"Good work ethic!" Leonetti thought.

After teaming up on a research project involving skin-tissue repairs, Leonetti and Shah now are celebrating their recent emergence as regional finalists in the national Siemens Competition in Math, Science & Technology. The Long Island pair are among nine area teens who will advance to regional competitions next month, mostly at Carnegie Mellon University in Pittsburgh.

Teens who get through next month's judging will compete at the national level at New York University in December, either as teams or individuals, for scholarships of up to $100,000. All of the nation's 96 regional finalists win at least $1,000.

Ward Melville High School in Setauket produced three regional finalists - Ruoyi Jiang, Aneesh Sampath and Kevin Zhao - the most ever for that school. Manhasset High School has two competitors, Shaunak Bakshi and Peter Massey.

Other regional finalists are David Park of Herricks High School in New Hyde Park and Joshua Pfeffer of North Shore Hebrew Academy High School in Great Neck.

A strong work ethic is a must for the Siemens contest, which features two complete rounds of judging. Each round requires students to deliver PowerPoint presentations before adult audiences, and to appear before six-member panels of jurists for rapid-fire Q&A sessions.

"Rather than grueling, we like to think of it as an opportunity to excel," said Peter Guastella, a science research specialist at Manhasset High.

Students nationwide submitted a record 1,348 projects to the contest this year - up 12 percent from last year. Most projects involve a year or more of research, often at university labs.

For David Park, research has meant two-hour commutes between his Albertson home and Columbia University in Manhattan as often as five days a week last summer. Park has teamed up with a New Jersey student, Erica Chung, for a project that aims to prevent liver infections.

Despite the long hours, Park says he's never tired of working with his faculty mentor, Ilya Trakht, a Columbia medical researcher. While continuing his research this year, the 12th-grader also takes six college-level Advanced Placement courses, plays the violin and serves as opinion editor for his high school newspaper.

"I became so interested in what he was doing, I just wanted to learn more," Park said.

Prized students

Long Island's regional finalists in the Siemens science competition and their research projects

Aneesh Sampath, 16, Ward Melville High School: part of a team project that used cyclic voltammetry and a novel nanotechnology-based approach to obtain fundamental electrochemical and quantum mechanical data for dioxygen.

Ruoyi Jiang, 17, Ward Melville High School, Setauket (Three Village district): simulated molecular alterations that would prevent cancer cells from developing resistance to chemotherapy.

Kevin Zhao, 17, Ward Melville High School: simulated removal of damaged DNA by an enzyme, work that may lead to development of anti-cancer drugs.

Michelle Leonetti, 17, Long Beach High School, and Salonee Shah, 17, W. Tresper Clarke High School, East Meadow: team project searching for an ideal biological scaffold on which to grow skin tissue for burn victims.

David Park, 17, Herricks High School: part of a team project modeling the binding of antibodies to envelope proteins in order to block the hepatitis C virus from entering liver cells.

Joshua Pfeffer, 17, North Shore Hebrew Academy High School, Great Neck: generalized a geometric flow equation, known as the Ricci equation, to spaces known as super manifolds, which are crucial to string theory.

Peter Massey, 17, and Shaunak Bakshi, 16, Manhasset High School: team project measuring antioxidants' potential effect in slowing impact of Alzheimer's disease in fruit flies.

Chart - PRIZED STUDENTS (see end of text). Photos-1) Aneesh Sampath, Ruoyi Jiang and Kevin Zhao of Ward Melville High School. 2) Michelle Leonetti 3) Salonee Shah. 4) David Park 5) Joshua Pfeffer. 6) Peter Massey and Shaunak Bakshi