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Upper St. Clair youth at MIT to compete for coveted prize

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By Bill Vidonic

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Vijay Viswanathan is hoping for the day when computer-generated simulations of the mechanics of blood platelets will replace peering through a microscope.

"You have to use microscopes that cost millions of dollars," the 17-year-old Upper St. Clair High School senior said on Friday. "With simulations, you get better results without spending a dime."

Viswanathan is at Massachusetts Institute of Technology in Cambridge, Mass., this weekend for the regional finals of the Siemens Competition in Math, Science & Technology. There are 13 students competing on teams or as individuals.

"I'm seeing that everyone else has incredible projects," Viswanathan said. "It's going to be a challenge. It's already been exciting and fun."

Viswanathan said his interest in science was cultivated, in part, by his older brother, Varune, 21, who has Duchenne muscular dystrophy, which creates muscle weakness.

His twin brother, Vinay, also is interested in science, but more along the lines of environmental science and policy.

"He's the politician of the family," Vijay Viswanathan said. "I'm the right brain who is more analytical, reasoning and more focused on solving problems, while he's the left brain, with more creative pursuits. He's more of a communicator."

His father, Ganesh, 48, is an accountant, and his mother, Meera, 45, owns her own business.

Viswanathan is presenting to a panel of judges his mathematical functions that resemble the structure of blood platelets. Understanding the mechanics and physics behind how a platelet is activated could help in the treatment of heart attacks, strokes and hemophilia.

The simulations, at least for now, are theoretical; Viswanathan said he didn't know how long it could be before there would be practical applications.

Some of the work, he said, has been frustrating. At other times it is rewarding.

"Research takes a lot of dedication," Viswanathan said. "If you're not patient, it's not your field."

Viswanathan is helping people in other ways. He and four other cross-country track teammates several years ago created the Zoom Foundation, which collects used wheelchairs, walkers and crutches.

Partnered with Global Links, the group's first shipment was 35 pieces of equipment to Haiti in response to last year's earthquake.

"Vijay is among the most creative, resourceful people that I have ever worked with, and a natural born leader," said Ben Edwards, his high school forensics coach.

Viswanathan wants to major in mathematics or computer science and one day become a professor. Winning the Siemens competition, which carries a top prize of \$100,000, could call additional attention to his research.

"These are phenomenal high school students," said Jennifer Harper-Taylor, president of the Siemens Foundation. "They are doing research on a Ph.D. level."

Another regional competition will be held next weekend at Carnegie Mellon University. Six individuals and six teams will compete for final honors at George Washington University in Washington.

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About Bill Vidonic

Tribune-Review Staff reporter
Bill Vidonic can be reached via e-mail or at 412-380-5621.

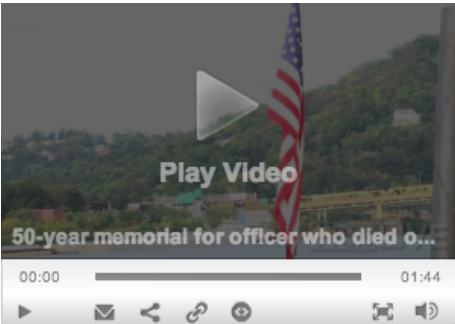


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