



School shines at science fair

The prizewinning ways of Mount Miguel High

By Jill Spielvogel

STAFF WRITER

May 31, 2001

SPRING VALLEY -- One researcher showed that mice learn more when they live in a place where they can run or play. Another used extensive surveys to show that female and male students have similar perceptions about their quality of life.

They're not professional scientists -- yet. They're Mount Miguel High School students whose research dazzled judges at this year's state science fair.

In all, six of the 12 Mount Miguel seniors who competed in the recent state science fair walked away with prizes, more winners than any other school in the state.

And this marks the second straight year the school's students, under the guidance of teacher Larry Nordell, have outshined all other schools, including prestigious private schools and medical or science magnets.

In the past dozen years, no school has had more winners. Only one, Alhambra High in the Los Angeles area, has had as many winners in one year, according to science fair organizers. Both Alhambra and Mount Miguel had six winners two years in a row.

Nordell, who was named the fair's science teacher of the year in 1998, admits he and his students have developed something of a reputation among other participants. Most of his winners are budding scientists, inspired by his class in advanced topics in biology and chemistry and by internships to develop winning research projects.

"We work hard at it. That may seem trivial, but that's really the case," he said. "There's a real discipline to doing research and not giving up." Nordell's class focuses on research, giving students a chance to apply their science prowess to the kind of work that professionals do.

Senior Marguerite Matthews studied the effects of exercise and

environment on learning in mice. She set up three types of cages -- a sterile environment with only food and water, one where two mice had a running wheel and a third where a dozen mice lived together in a cage filled with tunnels and toys.

Then she tested their motor skills and learning ability, and found the mice from the sterile environment didn't perform nearly as well as mice who ran or lived in an "enriched" environment. Her research earned her first prize in the behavioral sciences category.

Marguerite started the project while doing an internship at the Salk Institute last summer. She's continuing her research there, where she's looking at changes in the mice's brain tissue under the guidance of a researcher.

Nordell tries to help as many of his students as he can obtain internships like Marguerite's, ensuring they get a taste of what it means to make science a career.

Much of the credit for the success of the class, in the science fair and beyond, belongs to Nordell, said senior Sabrina Barrett.

"He's so dedicated to us," she said. "We're in there for hours working on weekends. He gives up so much of his free time to be with us."

Sabrina, who will begin studying biochemistry at UCSD in the fall, won second place in behavioral science for her project. She designed a survey to accurately measure people's feelings about their quality of life, administered it to more than 500 students and analyzed the results.

The other Mount Miguel winners are Josh Emerick, third place in environmental engineering; Roxane Santiago, third place in pharmacology; Derek Russell, honorable mention in fluid mechanics; and Danya Villanueva, honorable mention in physiology.

Copyright 2001 Union-Tribune Publishing Co.