Reading, Writing and Genetic Engineering

Biotechnology headed for Conejo area high school classrooms under Amgen program

By LINDA COOPER
News Chronicle

NEWBURY PARK — "Biology is no longer the science of cutting up frogs and worms and looking at mice," said Bruce Wallace, a facilities planning and safety manager at Amgen.

That is especially true for science students in the Conejo Valley, Las Virgenes, Oak Park and Moorpark school districts, who will get a chance to work with DNA and gene cloning, thanks to Amgen.

A grant from Amgen to the Conejo Valley Unified School District is enabling Newbury Park High School biology teacher Hugh Nelson to spend this school year working with Wallace and developing a genetic engineering program. Nelson will then help teachers present the program to their students.

"That's a pretty nice cooperative program," Conejo Valley Unified School District Superintendent William Seaver said.

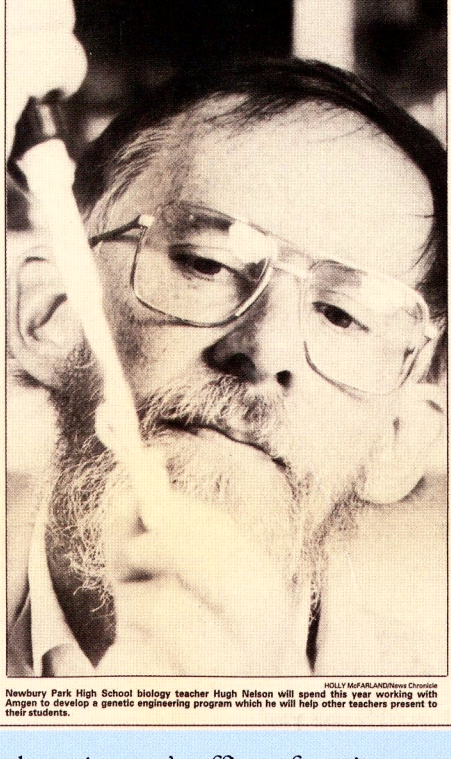
The genetic engineering program is part of a three-part project for Amgen, which also includes the teacher intern program and a lecture series. Amgen put together a lab for the classroom projects, at a cost of about $10,000, Wallace said.

The lab is simple enough that it can be done without complications and if there are problems, Amgen researchers will be just a phone call away, Nelson said.

The lab does not involve human genes or germs. It parallels what genetic engineering labs are doing across the country, Nelson said.

In the plasmid fusion lab students will take plasmid, which is a piece of DNA, from bacteria and use enzymes to cut the DNA, then put it back together in different pieces so they get a new organism, he said.

"I am extremely excited. It's a chance of a lifetime for me," said an enthusiastic Nelson.



HOLLY McFARLAND/News Chronicle

Newbury Park High School biology teacher Hugh Nelson will spend this year working with Amgen to develop a genetic engineering program which he will help other teachers present to their students.

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— Bruce Wallace

Nelson was chosen after he participated in a teacher intern program at Amgen in 1989. He was selected because he helped develop ways to move the experiments into the classroom, Wallace said.

"He was in the right place at the right time and showed a lot of interest in the development," he said.

Nelson has been teaching for 20 years, 18 of those at Newbury Park High School. He holds a master's degree in biology from Harvard University and a bachelor's degree in botany from the University of Michigan.

"This is really quite rare," Wallace said of the school project. Only a small portion of schools in the nation, about one in 1,000, have genetic engineering programs, he estimated.

In California, the local school districts will be the only ones south of Santa Cruz to have such a program, Nelson said.

The teachers are all very excited about the program, he said.

"I think they're enthused that someone is making an effort to make their job easier as well as more up to date," Nelson said.

He is worried, though, that apathetic students might not appreciate it.

They are not very excited by school so it is hard to generate enough enthusiasm to show them that this is new and different, he said.

Still, "the bright kids know that they're being treated to something real special," Nelson noted.

They are aware of DNA, but after they participate in the lab they'll be able to say "I touched it and I held it in my hand," he said.

Amgen is working with the schools because most of its staff members are highly educated and some are former educators, Wallace said.

"We're a company that's built on education and as individuals we value education because of it," he said, adding that about a quarter of the staff have doctorates.

"We are where we are through education," Wallace said.

"Educated people make better choices. They make greater contributions and this country needs that," he said.