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Genes in fashion

Newly enhanced DNA exhibit with branches of many family trees returns to Hayward

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Inside Bay Area

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THERE IS JUST no stopping the DNA project at California State University, East Bay in Hayward.

A year ago, the college anthropology department tested the DNA of 100 students, faculty and staff and presented the results in a comprehensive exhibit called "Immigrants All! Our Migration Tales and Genetic Trails" at the department's C.E. Smith Museum of Anthropology.

The project could have ended there, but it didn't. The department did more and more testing, doubling the number of people who unlocked the secrets of their ancestry through cutting-edge science.

The results of all the tests are highlighted in the college's new exhibit "DNA: Cracking the Ancestor Code," continuing through June 15 at the C.E. Smith Museum.

"We've tried to change things to make it more understandable to people," says museum associate director Marjorie Rhodes-Ousley. "There is so much to learn, and we found that people really enjoyed it."

To say that people enjoy learning about their ancestral roots is an understatement, says Max Blankfeld of Houston-based Family Tree DNA, the company that the college uses to test DNA samples.

Genealogy is the second most popular hobby next to gardening, Blankfeld says, and the second hottest subject on the Internet next to pornography.

When the company started selling DNA testing kits in 2000, they sold about five a week. They now sell about 1,500 of the \$99 kits a week, up from 500 per week last year.

The databases of Family Tree DNA now contain the genetic records of more than 135,000 people, up from 63,000 a year ago. Once DNA is tested, people can not only find out where their ancestors are from but also look up genetic cousins who have given permission to make the DNA public.

"People want to get tested to find out about their roots," Blankfeld says. Some of the more popular testers, he says, are white Americans looking for any relationship to Native Americans and African-American descendants of slaves searching for their relatives' origins in Africa.

Anthropology student Ariana Dunlap fits into the latter category. She is an African American whose most recent ancestors were slaves.

"I knew we were from Africa but I didn't know where," she says. So Dunlap swabbed the inside of her cheek and shipped the tissue off to Family Tree DNA. She found that she is descended from people who lived in West Africa.

Her story is just one of many told in the exhibit. Some Latin-American testers found roots in Russia and Scandinavia, others learned they were descendants of Otzi, the Stone Age mummy found preserved in an Italian glacier in 1991.

The exhibit, produced by students taking anthropology classes, starts in the fourth-floor hallway of the campus' Meiklejohn Hall. It first explores the DNA relationship between Thomas Jefferson and a son of Sally Hemmings, one of Jefferson's slaves at Monticello. A 1998 study revealed that at least one of her sons was fathered by one of the Jeffersons.

Near the Jefferson exhibit is the real meat of "DNA: Cracking the Ancestor Code," the explanation of how DNA is used to decipher a person's origins.

Genetic researchers analyze a part of the DNA chain that doesn't combine during reproduction. That part of DNA remains mostly intact through many generations. Inherited genetic mutations are also analyzed — they occurred in different people as they migrated out of Africa and through Europe, Asia and the Americas.

Researchers believe that people with a similar set of mutations share common ancestors. They are put into groups, called haplogroups. A haplogroup is often geographically oriented. For example, the haplogroup Dunlap, L1B, is considered Sub-Saharan African.

Once visitors understand haplogroups, they proceed into the museum proper. The first foyer represents Africa, where all the ancestors of all Homo Sapiens alive today lived more than 100,000 years ago. In fact, all men carry the genetic marker of Y-Adam from Africa, and all female mitochondrial DNA carries the genetic marker of Mitochondrial Eve of Africa.

Visitors then have the choice to go into Asia or Ice Age Europe rooms, to discover more of what those tested have found about their DNA.

Along with new multimedia-enhanced displays, this year's exhibit also features an audio tour, downloadable from the department's Web site at <http://class.csueastbay.edu/anthropologymuseum/>, which you can then bring with you and listen to on your iPod or MP3 player.