Top Student makes Scientific Discovery

Sarah Servier  
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Meet one of America's top students. At 17, Corona Del Sol high grad Veronica Shi is an accomplished pianist. 

"It's just a nice way to relax, but I can also push myself to work hard," said Shi.

At 14, she started spending her down time volunteering at St. Joseph's Hospital, studying how the brain perceives brightness.

For three years now, she's assisted her mentor, in examining the mysterious inner workings of vision and the brain. 

"It perceives an object always comparing to what's around that object. Imagine a gray circle, you put it against a white surface and that circle is going to appear darker. You put it against a black background and that circle, even though it’s exactly the same gray will appear lighter," said Shi's mentor, Dr. Susana Martinez-Conde.

Then one day, it dawned on Shi. What if perception of brightness depends not only on the background, but the width of the object?

"Veronica discovered independently based on principles she studied through the summer, that if this is true about the brain, then we should predict this should happen, and sure enough it did," said Dr. Martinez-Conde

Diverse as her talents may seem, Shi says they're not so different.

"They're both really similar. They both teach you problem solving skills, hard work, and dedication."

That's what landed her on the short list of prestigious members of the USA High School Academic First Team for 2007.