

High school student wins national cancer research award, spends summer in UF cancer lab

Steven Li's interest in cancer was sparked when he was very young. He was just eight years old when his grandmother was diagnosed with cancer.

"My whole family was devastated," said Li, who is heading into his senior year at Buchholz High School. "She fought as hard as she could, but eventually the inevitable happened. When cancer hits, it hits hard."

Li also had a passionate interest in math and science and spent many hours reading articles online and in magazines. It was an article in *Scientific American* magazine that introduced him to a field that combined all three of those interests. That field is computational biology.



In layman's terms, computational biology involves applying computer science and mathematical principals to the analysis of data to come up with solutions to biological problems. Cancer is certainly one of those problems.

"Everything about the field was intriguing to me," said Li. "The prospect of converting large amounts of data into something understandable and usable fascinates me to no end, and I think it's integral to finding a cure for cancer"

Li has had the opportunity to do just that, working under the direction of Dr. Frederic Kaye at the University of Florida's Lung Cancer Center. In a lab in UF's Cancer Genetics Research Center, Li combs through reams of data from sources like the Cancer Genome Atlas and the Catalog of Somatic Mutations in Cancer, using his mathematical skills to find patterns and connections that might one day lead to new ways of preventing and treating cancer.

"There's a growing need for people who have an interest and talent in mathematics and computer analysis to mine and to organize the huge amount of data that's available now," said Kaye. "It's been invaluable to me to work with Steve to kick start projects that we've been thinking about but needed extra eyes and talent to get going."

Li's interest and background in this particular branch of cancer research has already earned him national recognition. He was recently named one of just 100 winners of the Emperor Science Award, which is sponsored by PBS LearningMedia and the advocacy organization Stand Up To Cancer and is designed to encourage high schools students to explore careers in cancer research and care.

As an Emperor Award winner, Li received a grant, a laptop and an opportunity to spend the summer conducting research with Dr. Kaye. Later this year he'll submit the results of his work.

"I plan to make the most out of this experience, to get a better understanding of scientific processes and hopefully be able to apply it to a project of my own," said Li. "It's going to give me a head start in the field of science and open up more opportunities for me to improve myself."

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