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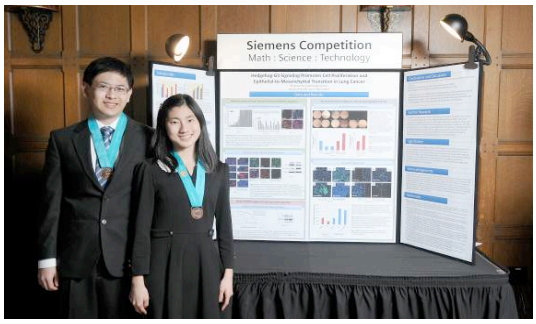

THOMAS LUH, Leland High School, San Jose, California, and **JOY JIN, Henry M. Gunn High School,** Palo Alto, California
PROJECT: Hedgehog-Gli Signaling Promotes Cell Proliferation and Epithelial-to-Mesenchymal Transition in Lung Cancer
FIELD: Biology
MENTOR: Dr. Hui Li, Thoracic Oncology Laboratory, UCSF Helen Diller Family Comprehensive Cancer Center

"It amazed and rather disgustingly stunned us that the leading cause of cancer-related deaths had not been fully investigated as much as many other, less significant ailments."

Lung cancer is the leading cause of cancer death in the United States. A majority of cancer patients are diagnosed with metastatic phenotypes. It remains a scientific challenge to develop novel therapeutic strategies based on molecular mechanisms of cancer and metastatic process. In their research, Thomas Luh and Joy Jin discovered a relationship between two proteins critical in the development and formation of cancer, which could help improve the treatment and metastatic prevention of lung carcinomas. Their findings suggest the Hedgehog-Gli signaling pathway plays a role in promoting cell proliferation and Epithelial-to-Mesenchymal Transition (EMT) in lung cancer.

Thomas Luh
Hometown: San Jose, California
"Science is an extremely open field with plenty to discover, questions to ask, and infinitely more to learn."

Thomas was inspired to pursue his research by the loss of his grandfather, great-aunt and uncle to various cancers. A junior, he is the founder and president of his school's Science National Honor Society chapter and won second place in the biochemistry/microbiology category at the Synopsys Silicon Valley Science and Technology Championship. He mentors local elementary school students in their science fair programs. Thomas received a diploma in piano performance from The Associated Board of the Royal Schools of Music in 9th grade and performs music competitively, as well as at senior centers. For his service in his local community, he has received the President's Volunteer Service Award for the past two years. He plans to study biology, biochemistry, biophysics and pre-medicine towards a career as a healthcare provider.

Joy Jin
Hometown: Palo Alto, California
"Competitive figure skating is an extracurricular that requires high levels of intelligence, commitment, and perseverance. It has molded my outlook and perspectives on many facets of daily life."

Joy took up competitive figure skating at the age of four and was then the youngest individual to qualify for the US Junior National Figure Skating Championships, a feat she has accomplished three times. She is a gold medalist in the 2012 US National Figure Skating Solo Dance Championships and a recipient of the US Figure Skating Special Achievement Award. Joy has volunteered at the Vista Center for the Blind and Visually Impaired since third grade with one Braille technology patent pending, and is a recipient of the President's Volunteer Service Award. A sophomore, she is vice president of her school's Chinese Culture Club. In her spare time, she explores the visual and literary arts, and was nominated for the International Who's Who in Poetry 2012. A violinist, she enjoys playing for fundraising and charity events. She plans to pursue molecular biology, neuroscience, and cancer biology as possible college majors and aspires to be a surgeon or oncological researcher.