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Advisor: Dr. Jun Liu
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My Research:

Our lab studies the membrane-associated protein caveolin-1. My work focused on caveolin-1 expression during epithelial to mesenchymal transition (EMT), a process thought to be a key step in cancer metastasis. I found that focal adhesion kinase (FAK) can mediate caveolin-1 expression and that caveolin-1 expression is up-regulated upon TGF-beta1 induced EMT. By using the FAK inhibitor drug PF-228, I was able to block caveolin-1 up-regulation during EMT. Further, I examined the role of caveolin-1 expression on aspects of cell motility. By using Electric Cell-Substrate Impedance Sensing (ECIS) attachment assays and other techniques, I found that knocking-down caveolin-1 expression changes aspects of cell motility, including increasing both total cell spreading area and number of focal adhesions. These data suggest a novel pathway by which FAK can regulate aspects of cell motility during EMT.

Future Plans:

I am now going to finish the 3rd and 4th years of medical school. In the future, I plan to do my residency in Internal Medicine and eventually practice in the field of Oncology. I aim to find a residency program that will allow me to continue doing research throughout the remainder of my physician-scientist training.