Lizbeth Rojas  
Alliance/Merck Ciencia Scholar Class of 2012  
Studying mechanical engineering at Loyola Marymount University  
Interned at Loyola Marymount University

Lizbeth’s parents grew up in Mexico. They weren’t able to complete their high school education because they couldn’t afford not to work. Even today they still get out of bed at 3 a.m. to make champurrado, Mexican hot chocolate and tamales, which they sell from a cart on the streets in East Los Angeles. “Whenever I don’t feel encouraged, I remember what my parents do and it gets me back up,” Lizbeth said.

When she was accepted at Loyola Marymount University, her high school mentor urged her to matriculate. Others told Lizbeth she should choose a more affordable local college. Even though she had no idea how to pay the $50,000 tuition, she accepted Loyola Marymount’s offer. Lizbeth then called the college’s financial aid office nearly every day to ask for their help. She became very anxious. Two weeks after mailing her acceptance letter, while she was studying for her A.P. exams, she received a phone call from an unknown number. It was a woman from Loyola’s office of financial aid calling to offer her a full scholarship, including room and board. “It was just the most happiest moment [ever],” she said.

In addition to the scholarship from Loyola, Lizbeth received the Alliance/Merck Ciencia Scholars award, which enabled her to intern at her university for the past two summers. At her internships, Lizbeth helped to develop an on-off controller that regulated the positioning controller of a DC motor, an electric motor that powers everyday household appliances as well as industrial equipment using DC current.

Lizbeth’s research imparted knowledge on how to analyze circuits, how to compare voltage differences and how to improve control systems. She and a partner prepared a design of the platform to determine the best placement of a sensor and motor. They also built the circuit boards themselves, soldering the wires to the board. The control system they designed will be used by the university’s seniors in an upcoming course called Control Systems.

After college, Lizbeth plans to attend graduate school and earn her doctorate. She also wants to become an engineer for an automotive company or a national defense company such as NASA or Boeing. Thanks in part to support from The Alliance, Lizbeth’s opportunities are limitless.