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To the Professional Engineers in California Government:

I would like to thank you for awarding me the 2015 Marilyn Jorgensen Reece Award. I am honored that, out of the many wonderful projects at the Los Angeles Country Science Fair, mine was chosen for special recognition. Receiving this award has given me the courage to pursue my interests in the engineering field.

The purpose of my experiment, titled *The Strongest Configuration of Reinforcement Bar*, was to investigate the effect of rebar patterns on concrete's ability to hold up weight before failure. Cement was poured into molds to create 1.91 cm. x 6.35 cm. x 50.8 cm. bricks. The rebar in this experiment was bent hanging wire, and three bricks were made for each type of rebar pattern - flat, triangular, and rectangular. The bricks were weighed down with 1.91 cm. bolt size square strut washers, each weighing 0.179 kg., until the bricks broke. The triangular rebar held the most weight at an average of 13.6 kg. These results contradict my hypothesis that the flat configuration could hold the most weight. On average, the triangular rebar configuration was able to hold 1.5 kg. more.

I have always been interested in architecture and the structure of buildings. Near my home and school, the California Academy of Math and Science, many construction projects are taking place. Every time I drive by, I like to examine the unfinished buildings. When it came time to choose a project topic for the school science fair, I just knew that I had to do something relating to construction and support. My dad, who is a civil engineer, helped me to come up with the simple basics of my project. Creating my project and testing my hypothesis was very enjoyable, and I was able to learn a lot about concrete reinforcement.

Thank you so much for choosing me as the winner of the 2015 Marilyn Jorgensen Reece Award. I would like to especially thank Mr. John Vassiliades for supporting me in all the years I have participated. Thank you for your constructive comments and your encouragement. You have made my experience at the county science fair an unforgettable one. When beginning my project for my school science fair, I never imagined that I would win such an amazing prize. This whole experience has inspired me to work even harder towards my goal of working in the engineering field. I will always be grateful to the PECG for starting me off on my way to becoming a successful engineer.

Sincerely,



Kassandra Canalita