April 29, 2010

George Khabbaz

6th Grade

St. Gregory Hovsepian School

Dear Professional Engineers in California Government,

My name is George Khabbaz, and I am 11 years old. I am currently in the 6th grade at St. Gregory Hovsepian School in Pasadena, CA. I am the proud recipient of the 2010 James E. Roberts Award from the Los Angeles County Science Fair judges.

My project is called "Which Building Structure is More Earthquake Resistant?" My experiment's objective is to see which building design is most resistant to earthquakes. The ability to resist an earthquake was measured by the amount of time a building would stay upright measured in seconds after an artificial earthquake was induced. I created an earthquake machine that would induce an artificial earthquake. The machine's pull-and-release design insures that each earthquake will be of the same force and have the same type of movement.

I enjoyed doing this project since it was directly applicable to saving lives and since it involved structural engineering, which I find intriguing. My experimental results showed that structures with an overlapping design with base isolators were the most earthquake-resistant of all building types. In the near future, it would be interesting to research updated building design types (as is directly applicable to modern-day earthquake engineering) and try to include these as additional conditions. Also, I would study more in depth how building height affects the amount of time it takes a building to fall given one type of structural design.

I have always been interested in building design and construction since the time I used to build structures with my LEGOs. That passion fueled my interest and background in this project, and it was great to receive recognition from the Professional Engineers in California Government! I would like to thank the Professional Engineers in California Government for their generous monetary award to me. Everyone was very gracious and supportive of me, and I cannot begin to express my gratitude towards your highly-regarded institution. Thank you for putting me on the right track to a future career in engineering!