

March 29, 2025

To: Professional Engineers in California Government,

Thank you for the recognition of my work with the Marilyn Jorgensen Reece Award. To be honest, I was not expecting to win any awards, and the surprise makes me even more grateful for receiving this. Your organization is inspiring young people like me to become engineers in the future.

While I am growing up in Southern California, I also spend almost every summer in Japan, so earthquakes are something that is part of my natural experience. My dad works in a building that recently had a seismic retrofit, and when we talked about that I wanted to learn more about making buildings safer this way. That was the main reason for my research project on "How to Make Buildings Earthquake-Proof."

There are lots of things that engineers have found out over time on how to make better buildings for earthquake regions. Many new buildings are actually nearly "earthquake-proof," but that doesn't necessarily help people and businesses with older buildings. As I started my project, I learned about some of the techniques of seismic retrofits which can make existing buildings stronger. I think one of the most important things about how I did my research is that it shows how to demonstrate this with very simple and inexpensive materials. Schools or other organizations can teach about seismic retrofits. We can make people better informed about how these can be done and how much good they can do.

I built the test equipment using mainly recycled or very inexpensive materials. Building the "shake table" was a good small engineering project itself to start, and putting together test "houses" made me think about what I've learned about stable shapes and why things fall over. Being able to make the simplest weakest things, a house of index cards, and make it stable with just a few simple retrofits was really fun and made me understand what the professional engineers do in real jobs. It would be really gratifying to see my work used to help teach engineering in schools, even schools with very low budgets. Then we can all work together to bring up another generation of future engineers.

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