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NASA Mid – Internship Update

This is one of the most amazing experiences of my life! This week marks the mid-point in my journey here at the NASA Ames Research Center in Silicon Valley. My time here has been truly incredible and I am enjoying every moment of it.

The project I have been working on is titled “Stand-alone data capture system for Triboelectric Nanogenerator”. The Triboelectric Nanogenerator (TENG) requires specialized, desktop-sized measurement and data logging equipment to accurately measure and display the power and charge characteristics of the generator on a desktop PC. This equipment requires AC power outlets and are also unwieldy, thus making experimentation and data capture of the generator in varying environmental scenarios infeasible.

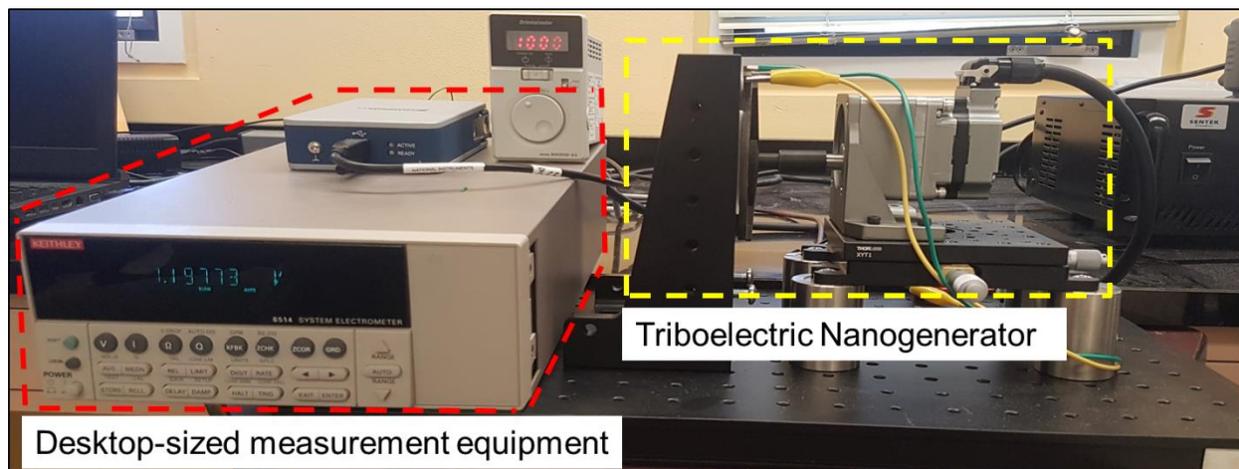


Figure 1: Equipment currently being used

The purpose of this project is to develop a miniaturized, standalone/battery operated data measurement and capture system that can measure the power characteristics of the TENG. The prototype system shows promising results as it is capable of accurately measuring, displaying and storing the generator power characteristics. A prototype was developed and successfully captures the TENG characteristics as specified.

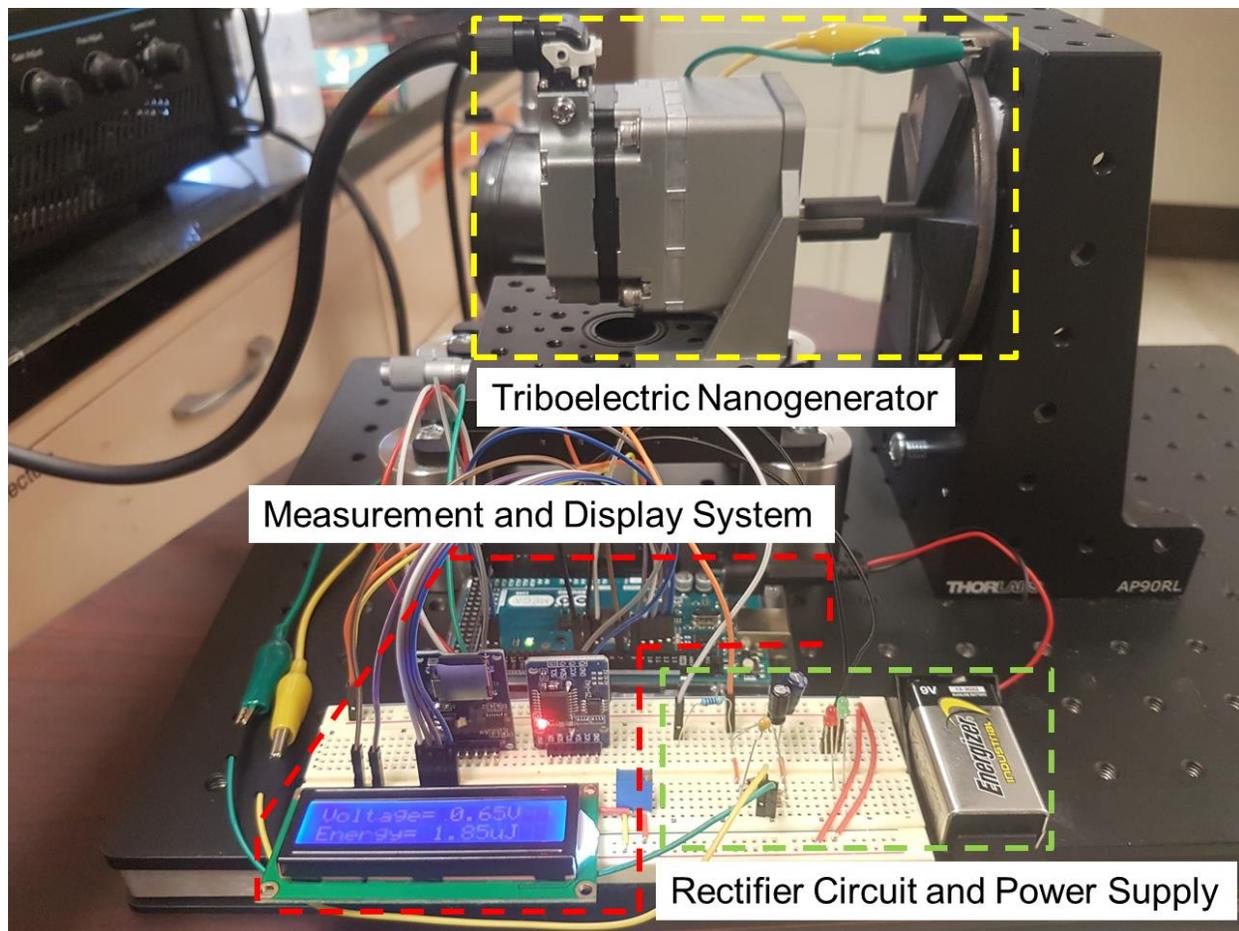


Figure 2: Prototype system

The work that I am doing here is very exciting as it is in my field of study which is Electrical and Computer Engineering, but the application is in Nanotechnology and working with nano-materials. This application is ground-breaking territory and thus the work being conducted is both fascinating and novel. This work provides excellent opportunity for further study. I am hoping that I can carry on the work I conduct in this internship and propose a thesis topic for my MSc. Final Year Project which will commence in September.

I have also been on all the tours that NASA has to offer of the different facilities here at NASA Ames such as the Vertical Motion Simulator, the 7x10 Wind Tunnel, the Hyperwall Supercomputer and the Vertical Gun Range. Learning about this historical landmark is quite interesting. In addition to the exciting work that I am conducting here, I am also meeting other amazing, accomplished interns and colleagues who are genuinely interesting and are great friends to have in this journey. Most of the interns live at the NASA Exchange Lodge and thus we can meet very often for activities. I enjoy playing Ultimate Frisbee and Football (Soccer) with the other interns. In addition, we attend several concerts and events at the Shoreline Amphitheatre which is located nearby. The interns are also very outgoing and adventurous as we have been camping at Big Sur, California which is the beautiful

coastline of California. I have bathed in the Pacific Ocean for the first time (it is cold...very cold) and seen the beautiful Milky Way in the starry night sky unimpeded by light pollution. Below are some of the pictures I've taken to document my time here at Ames.



Figure 3: Some of the friends I have made.



Figure 4: Big Sur, CA.



Figure 5: Reach for the sky!



Figure 6: Concert with friends.

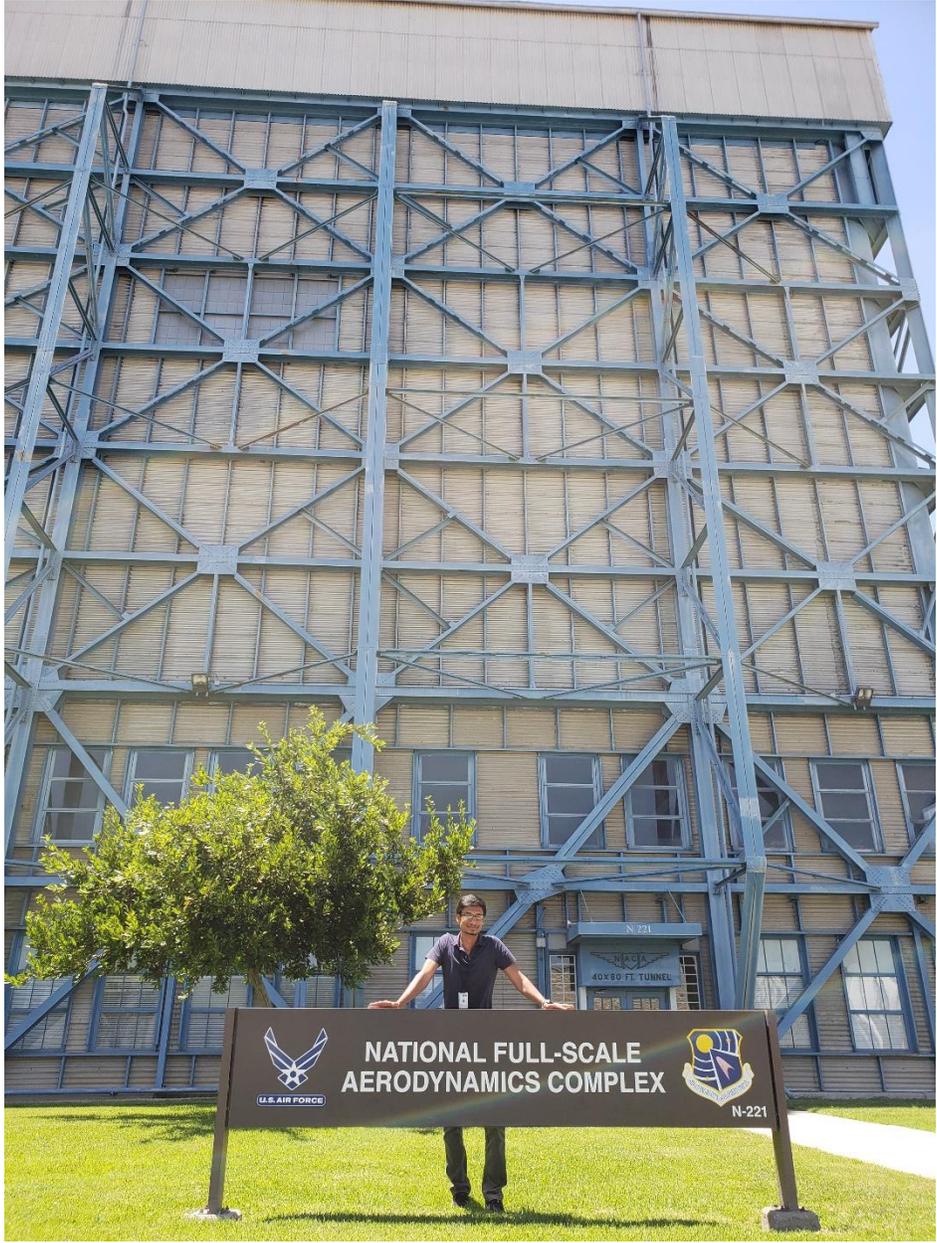


Figure 7: 40 x 80-foot Wind Tunnel.



Figure 8: Where I work.



Figure 9: Houston, we have NO problems!

I could not ask for a more entertaining experience and I will continue to make the most of my time here.