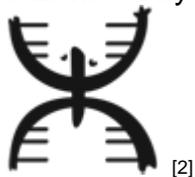


Liquid crystal: the coolest oxymoron there is! ^[1]

Submitted by [Joshua Zak](#) ^[2] on 31 July 2015 - 5:18pm



Poster session!

When I first started telling my friends and family back home in Pittsburgh about my plan to spend the summer in Puerto Rico, the reactions I got went something like this: "Not fair! A summer on the beach!", "Don't party too hard!", and "You're going to come back so tan!" And while I do have to give some credit to these statements (because I did go to the beach, party with new friends, and get really tan), I want to stress that those awesome experiences were not the only reason I came to Puerto Rico. Yes, Puerto Rico is a beautiful tropical island, but most people already know that. What they don't know is that Puerto Rico is also on the forefront of important and original scientific research, and I experienced that firsthand.

My research this summer focused on exploring the effect of different liquid crystal matrices on the mechanical and structural properties of colloid-in-liquid crystal gels. We prepared suspensions of colloidal microparticles in various liquid crystal matrices. The particle microstructure was analyzed through a combination of optical microscopy and rheology. From this study, we were able to demonstrate that the particle microstructure and the mechanical response of these stimuli-responsive materials can be modified using different liquid crystal matrices. These findings were promising and research will continue on this project by further investigating different liquid crystal matrices and their effects on the properties of these materials.

I am so grateful that I was able to come to the University of Puerto Rico in Mayagüez and experience the cutting-edge research that is happening here every day. I know that when I return home to Carnegie Mellon, I will tell all of my peers and professors that yes, I did go to the beach and get tan in Puerto Rico, but the real value of my time here was contributing to the fast-growing scientific community. I am happy to say I have made some great scientific connections as well as some new friends here in Puerto Rico. This is goodbye, la Isla del Encanto, but only for now!

Tags: • [UPR-Mayagüez REU RMSM Blog](#) ^[3]

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