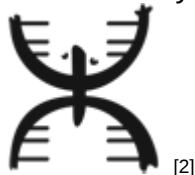


REU - Reconfigurable and Multifunctional Soft Materials - UPRM ^[1]

Submitted by [Joshua Zak](#) ^[2] on 26 June 2015 - 9:28am



Hello CienciaPR members!

My name is Josh Zak, and I am currently a rising junior at Carnegie Mellon University pursuing a dual degree in Chemistry and Materials Science & Engineering. This summer, I have the distinct privilege of participating in a Research Experience for Undergraduates here at the beautiful University of Puerto Rico - Mayagüez. I am assisting in the research efforts of PhD candidate Heberth Diestra Cruz in the lab of Dr. Aldo Acevedo in the Chemical Engineering department.

My research this summer is focused on colloid-in-liquid crystal suspensions, which are just tiny particles floating around in a material that has properties between those of conventional solids and liquids. I am investigating specific parameters of these suspensions in the hopes of finding the one relevant to controlling the mechanical properties of the material; that is, I aim to determine the variable that I can manipulate that correlates to whether the material displays solid-like or liquid-like behavior at room temperature. These materials have potential applications in selective cell culture substrates and biological and chemical sensors. This research is unlike anything I have ever done before. My previous research experience is in the field of synthetic inorganic chemistry, so I am extremely excited to work on something new and interesting with important potential impacts on the science community and society at large.

This is my first time to Puerto Rico and also my first time to a Spanish-speaking region. I study Japanese, which I have noticed is not exceedingly useful here! Nonetheless, I have enjoyed learning what I can of the language so far and have even mustered up the courage to order food and drinks for myself when we (the program participants) are out and about on the island. We have traveled all along the west coast checking out the beautiful beaches and even celebrating La Noche de San Juan with the locals! I am excited to continue exploring Puerto Rico and taking in all this wonderful place has to offer.

Please feel free to contact me at jzak@andrew.cmu.edu [3] if you have any questions regarding my research here or back at CMU. Don't hesitate to contact me about anything at all!

Thanks for reading,

Josh

Tags:

- [UPR-Mayagüez REU RMSM Blog](#) [4]
- [NSF](#) [5]
- [young scientists](#) [6]
- [Aldo Acevedo](#) [7]
- [Chemical engineering](#) [8]

Categories (Educational Resources):

- [Texto Alternativo](#) [9]
- [Blogs CienciaPR](#) [10]
- [Química](#) [11]
- [Ciencias Físicas - Química \(intermedia\)](#) [12]
- [Química \(superior\)](#) [13]
- [Text/HTML](#) [14]
- [CienciaPR](#) [15]
- [MS/HS. Chemical Reactions](#) [16]
- [MS/HS. Structure/Properties of Matter](#) [17]
- [6to-8vo- Taller 2/3 Montessori](#) [18]
- [9no-12mo- Taller 3/4 Montessori](#) [19]
- [Blog](#) [20]
- [Educación formal](#) [21]
- [Educación no formal](#) [22]

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<https://www.cienciapr.org/en/educational-resources/9no-12mo-taller-34-montessori?language=en> [20]
<https://www.cienciapr.org/en/categories-educational-resources/blog?language=en> [21]
<https://www.cienciapr.org/en/educational-resources/educacion-formal?language=en> [22]
<https://www.cienciapr.org/en/educational-resources/educacion-no-formal?language=en>