## **Ink Rheology** Justin Platero<sup>1</sup>, Dylan Barber<sup>2</sup>, Jennifer Lewis<sup>2</sup> <sup>1</sup>Navajo Technical University, <sup>2</sup>Harvard University *NSF PREM DMR-2122195 MRSEC DMR-2011754*

Rheology is the study of flow behavior and deformation of materials. It allows us to characterize a material based on how "liquid-like" or "solid-like" the material is. To determine that, we introduce our material to a force. In this case we shear our material between two plates (see photo). We are collecting rheological data on the inks we use to 3-D print battery electrodes. This data will allow us to optimize how we make our inks and to improve how they extrude.



The photo above is of a rheometer testing the rheological properties of our ink

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My name is Justin Platero. I am a 4th year undergraduate at the University of New Mexico. I am majoring in Biology, and I plan on attending graduate school after I receive my undergraduate degree. I would like to attend a medicine focused graduate school. I've chosen this area of study because I would like to help my community overcome health related issues. In my spare time I enjoy hiking, and enjoying the New Mexican landscape.



The Photo above shows Justin (left) with his mentor Dylan (right).