

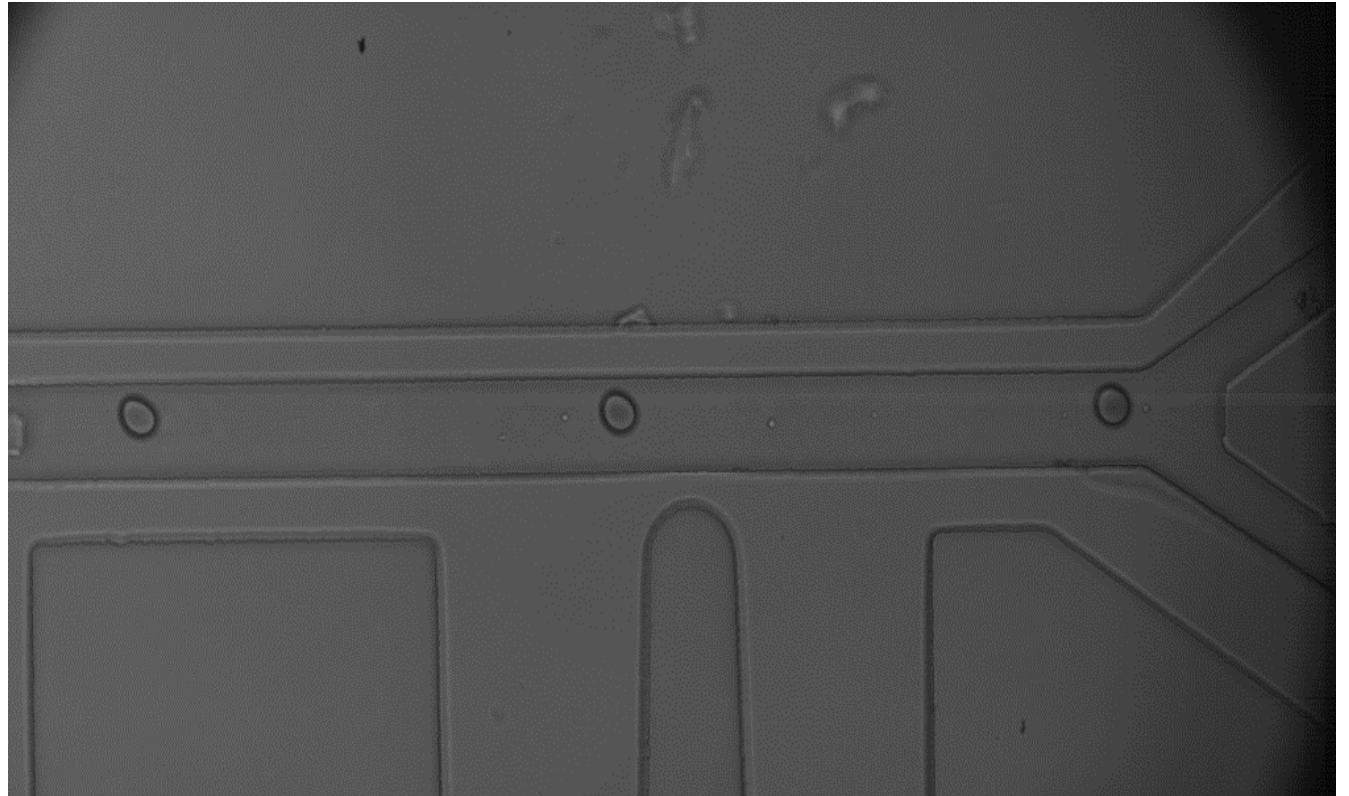
Developing a Novel Droplet Sorting Device Using Electrophoresis

Tionna Tapaha¹ Zabari Bell¹ Rohan Thakur² Robinson Tom² David Weitz²

¹Navajo Technical University ²Harvard University

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Many biological samples are heterogeneous, so we use droplet microfluidics to allow us to do single cell sequencing. Single cell sequencing lets us see the differences between cells within a heterogeneous sample. However, it doesn't give us enough information for rare cells, therefore, sorting is a helpful technology because only the cell of interest is being sequenced. This enables high resolution of the cell of interest. In this project, we are developing a new method of sorting droplets by charging the droplets selectively and then sorting them. Our experimental approach uses electrophoresis which should have a faster rate than dielectrophoresis.



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My name is Tionna Tapaha. I am a fourth-year undergraduate at Navajo Technical University. I am majoring in Biology and will be graduating in Fall of 2022. After receiving my Bachelor's degree, I plan on attending graduate school for a MD PhD program. I would like to study at the University of Utah and attend their dermatology program. I enjoy conducting research and have always wanted to practice medicine. Someday I would like to create a skincare line based on Native American herbal plants. My hobbies include spending time with friends and family, hiking, traveling with my dogs, and running.



Pictured above from left to right:
Mentor; Robinson Tom, Tionna Tapaha, Zabari Bell, Mentor; Rohan Thakur