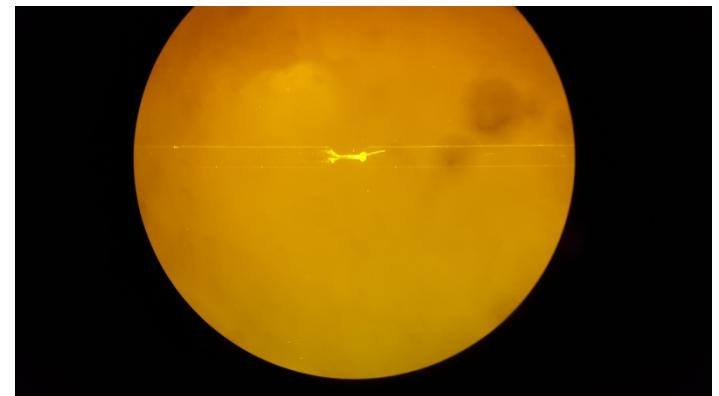
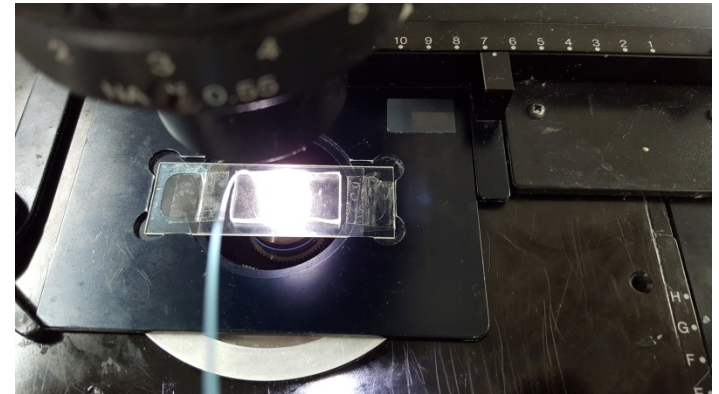


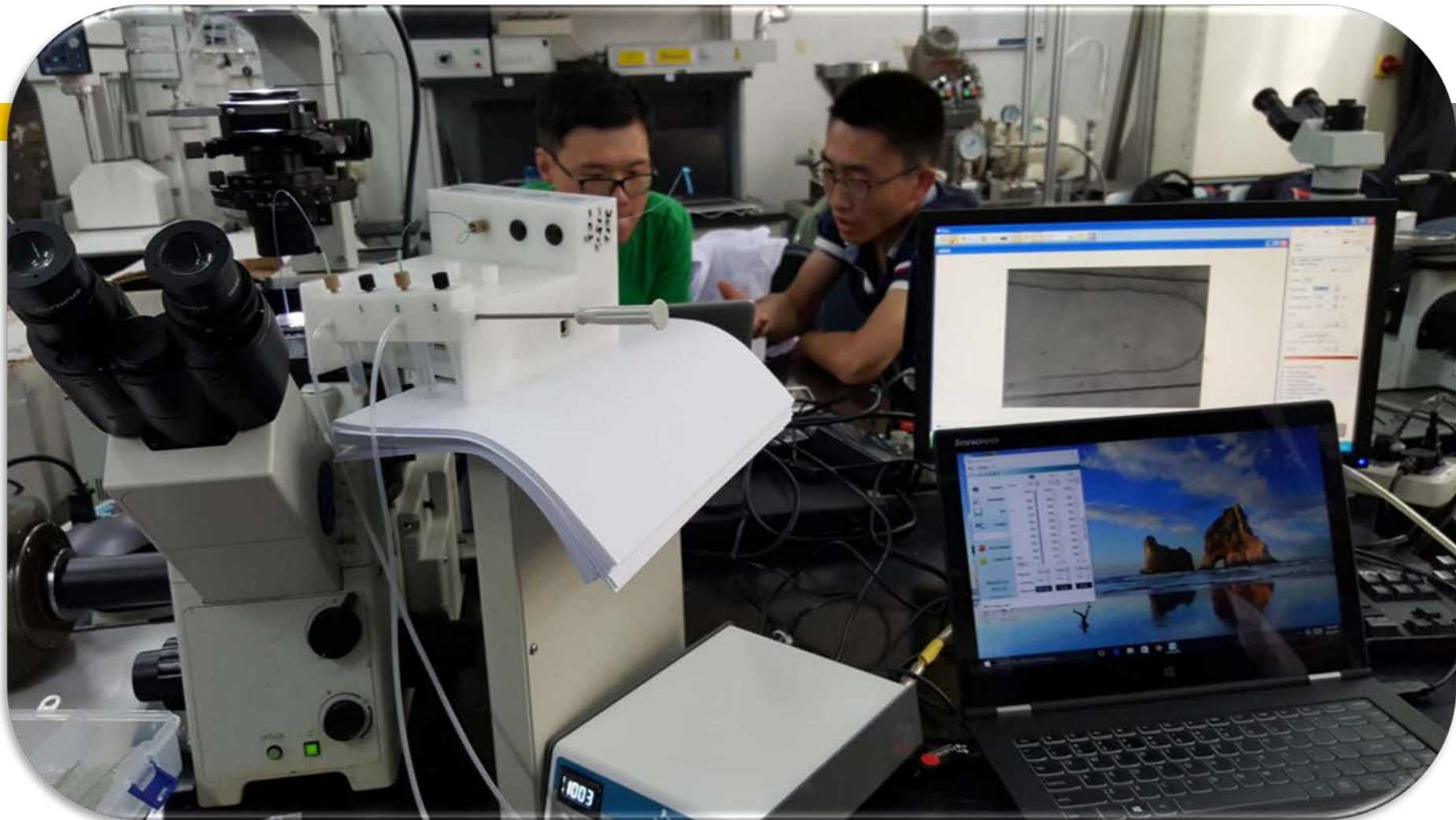
IIP AT THE UNIVERSITY OF SCIENCE AND TECHNOLOGY, BEIJING

Nathanael Ji
Class of 2018

The Work

- Focus on microfluidics under the Mechanical Engineering department
- Designed experiments to circulate Red Blood Cells within channels that were mere micrometers in diameter
- Resulting cell changes related to medical applications (e.g. malaria detection)



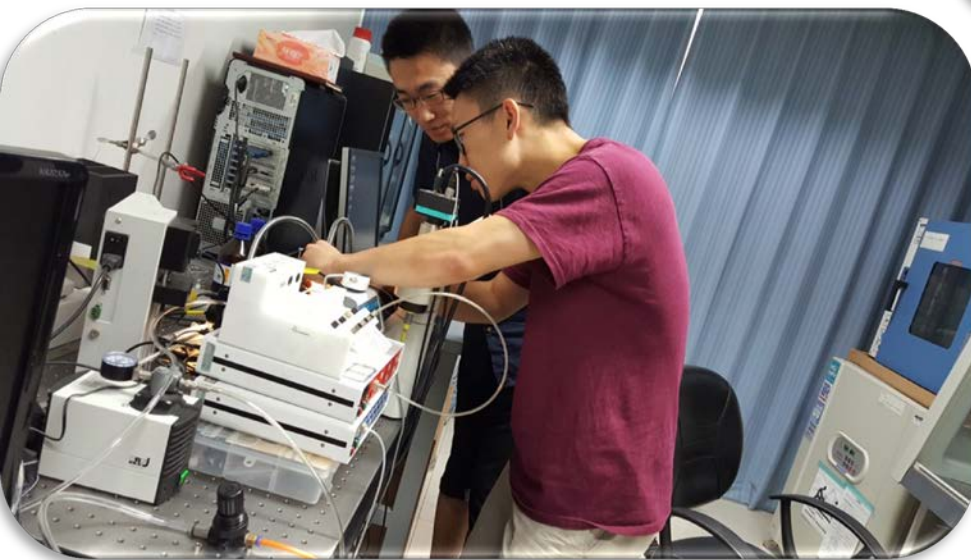


The experimental setup

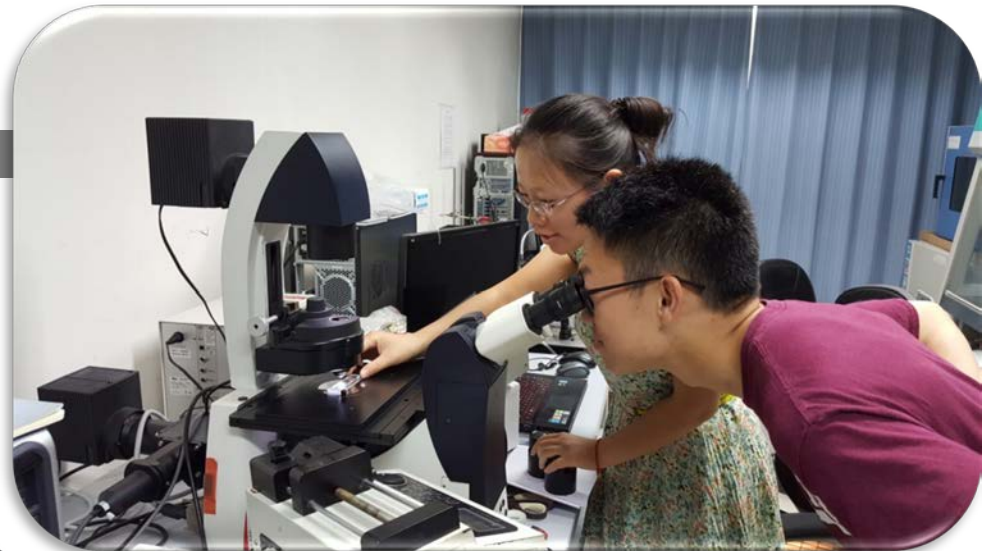
Most Rewarding

- Connecting with the great grad students at the lab
- Independence in exploring new parts of Chinese culture





Learning how to circulate
cells

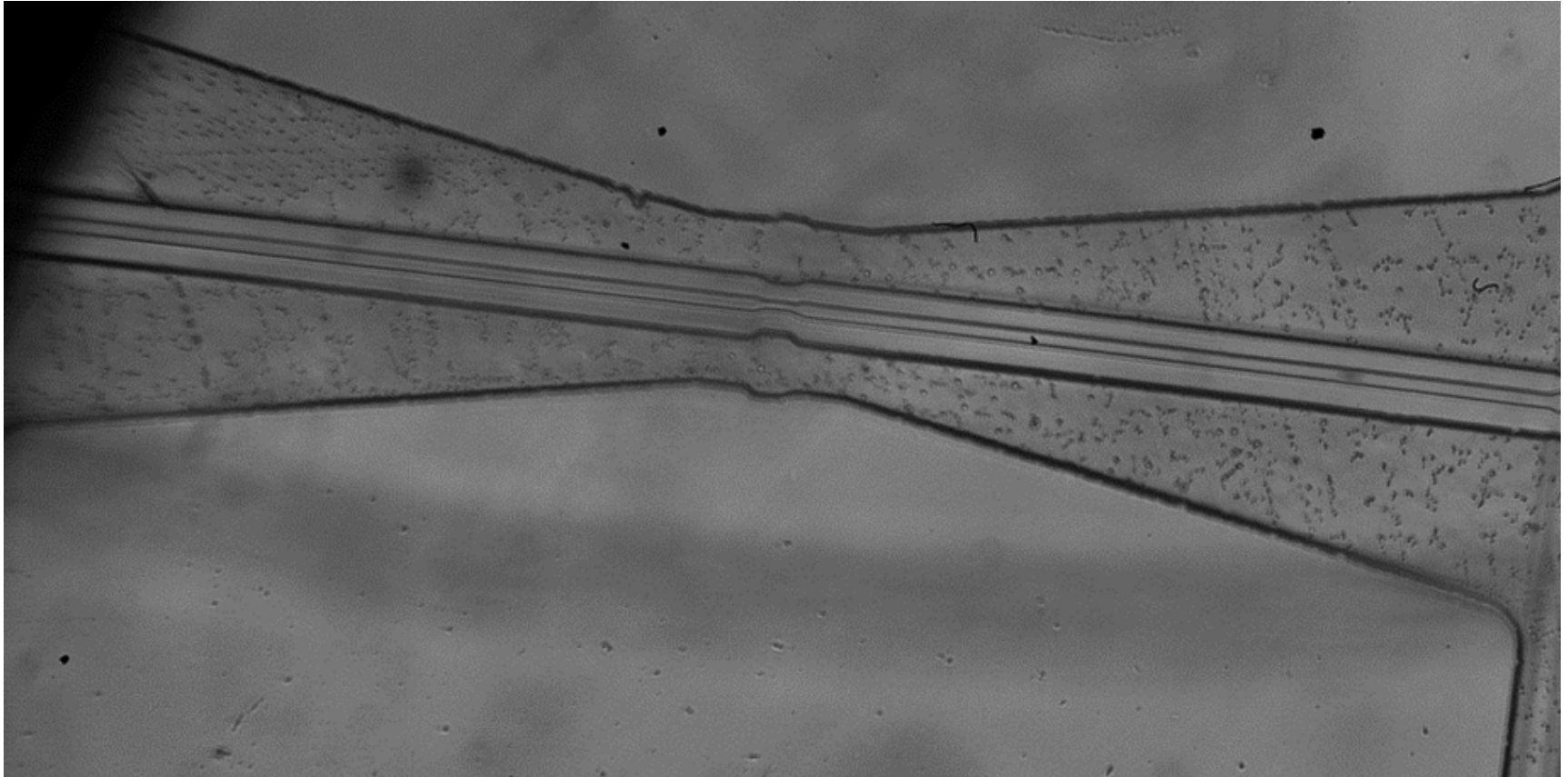


Microscope training

Impact

- Successfully completed the experiment and showed a change in cell elasticity
- Completion of my portion means that future students can continue where I left off
- Next steps of the project
 - ▣ Inserting gas into the channels to see how the cells react when in conditions that accurately represent the human body

Red Blood Cell Channel with Adjacent Gas Channels for Future Works



Educational Impact

- Exposed me to an intense research environment along with an academic conference at the end of the program
- Able to learn from seasoned professors as they discussed their fields
- This project presented an overlap of several interesting areas, particularly mechanical engineering at a micro-scale being applied for medical purposes

Snapshots from the Academic Conference



A photograph of a stone archway, likely part of a historic fortification or castle, looking out onto a vast, mountainous landscape. The arch is made of rough-hewn stone blocks. The landscape beyond the arch features rolling green hills and mountains under a clear blue sky with some light clouds. In the foreground, the stone wall of the arch is visible, and the ground is a flat, light-colored surface. The overall scene is bright and scenic.

People

Knowledge

Country

Thank
you, IIP