



BITNG LAB UPDATE

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Date 6/21/2021

Progress from last week

- Shriner's project
 - Strain sensor manufacturing
 - Temperature sensor calibration

SHRINER'S PROJECT

Strain sensor

Rounded serpentine pattern on PDMS

Drop cast using AgNW

Laser cut etching after to separate AgNW from Stencil

Results:

- Higher yield
- Able to get a clean cast results
- Drop casting onto PI itself produces better surface quality and it is less likely to flake



Rounded serpentine pattern

Strain sensor: Screen Printing

Manufacturing method:

- Screen printing

Design:

- Various serpentine patterns

Result:

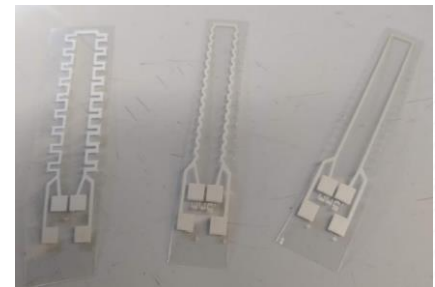
- High manufacturing yield when printing on PET
 - Will encapsulate and test
- Low manufacturing yield when printing on TPU
 - Likely due to ink not being compatible with TPU

Takeaway:

- Nathan Z will have an update on inks



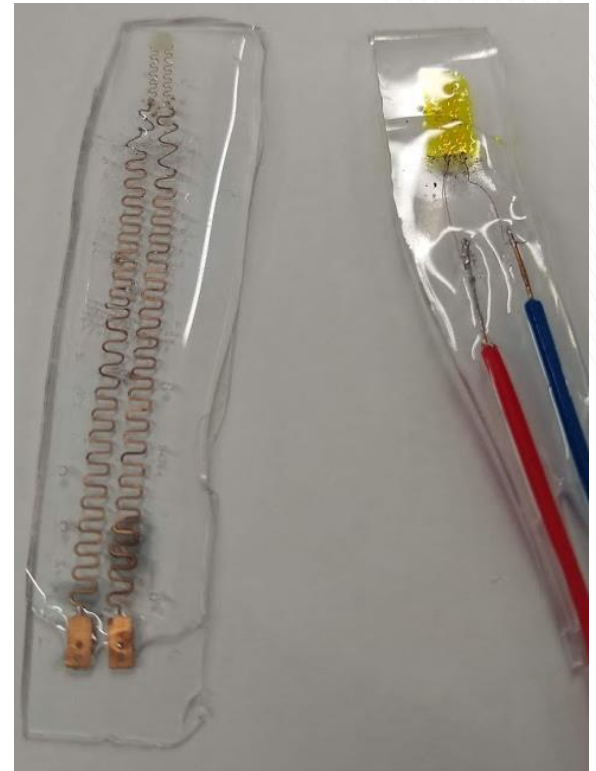
Strain Sensor
on TPU



Strain Sensor
on PET

Temperature Sensor

- Calibration
 - 2/3 temperature sensors calibrated
 - Will have data for all three by Thursday



PATH FORWARD

Path forward (6/21/21 – 6/28/21)

- Shriner's Project:
 - Sensor fabrication:
 - Strain sensor
 - screen printing
 - Sensor characterization:
 - Strain sensor
 - Temperature sensor

APPENDIX