Demolding

ENGR 1182.03
Lecture
Learning Objectives of Lab

- Expose students to a lab-on-a-chip fabrication technique of demolding PDMS lid from the petridish.
Overall Procedure for Today

- Demold two of the PDMS lids. Keep one in its petri dish for second chip.
  - Cut and punch holes as instructed in the procedure (make sure to use 2mm punch size)
- Clean chipholder and PDMS Lid and acrylic chips with the ultrasonic cleaner
  - Dry and assemble, avoiding contaminating contact with other surfaces
- NOTE: Wear Gloves to avoid contaminating the chip and each team will divide in half and demold the two lids.
It is very important that you align the chipholder and chip carefully. Take as much time as you need to get this right!

- Print a 1:1 drawing of your chip design similar to sample provided on website.
- Align chipholder over printout
- Align and place detection and staging wells of acrylic chip over printout of wells
- Align and place lid access holes over wells
- Assemble chipholder top
Fluidics testing

- Insert the 3 ml luer lock syringes with cut tapered tip into access holes and waste well.

- Pump dyed water into a staging well and then further into the detection well. Determine best channels/wells to use for final test.

- Suction can be applied at the waste well.

- Write up NOTES on your observations and comments on your design. Store in your notebook.