APP N04-1

Engr 1282

Spring 2020

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M. Parke 12:40

2.14.20

How many flow channels will your LOC have?

- 6
- 4-best option
- 5
- Likely an even number to make flow consistent

Will it be useful to have more than one entrance or exit port for each channel?

- Yes there will be two because there are several flow channels so it should not be consolidated into one channel.
- Also could have just one entrance and exit port for each channel
- Makes most sense to have just one entrance and exit port if there are more than 4 channels for simplicity purposes
- If there are less than four channels then it makes sense to have multiple entry and exit ports for each channel.
    - No more than two per channel

What will the shape of your entrance/exit ports be?

- Circular ports; makes the most sense production wise.
- Squares are an option but it might be difficult to insert fluid in that shape

Circular ports make the most sense, everything else seems to abstract

What will the dimensions of your channels be (length/width/height)?

- Multiple channels would call for a smaller depth, roughly 250 micrometers
- Length of multiple channels would also be on the shorter side, like 300 micrometers
- If fewer channels are used then they would be longer and deeper, so 400 and 350 respectively

250-350 micrometers for depth
300-400 micrometers

Will you have a designated "testing" region in each channel? A consistent location to be viewed by the microscope? If so, how long will it be? Where will it be located? How will you know where it begins/ends?

Yes because there should be a control region so that it can be clear that the results are not affected by differing areas of the chip. The region should not be more than 500x500 micrometers because it should be a small portion of the chip.
If possible, changing the color of this section would be a way to indicate
Some sort of embossing/engraving

What will be the overall shape of your chip holder? How many fasteners will you use and where will they be located? Where will your holes for the inlet/outlet ports be?
A circular shape would be good for this because it is flexible.

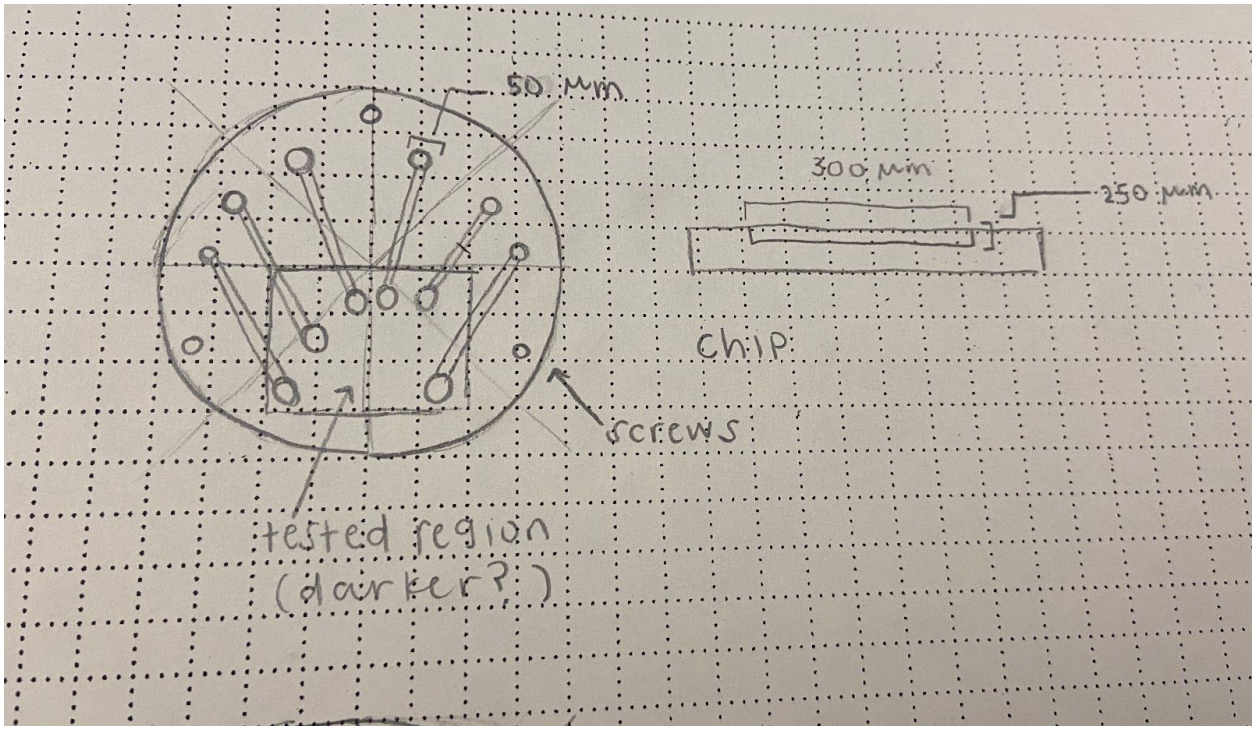
What are some design considerations that you and your project team should take into account when deciding which design to use?
The cost, the ease, the simplicity. Making a simple yet effective design is really important to the success of this project.

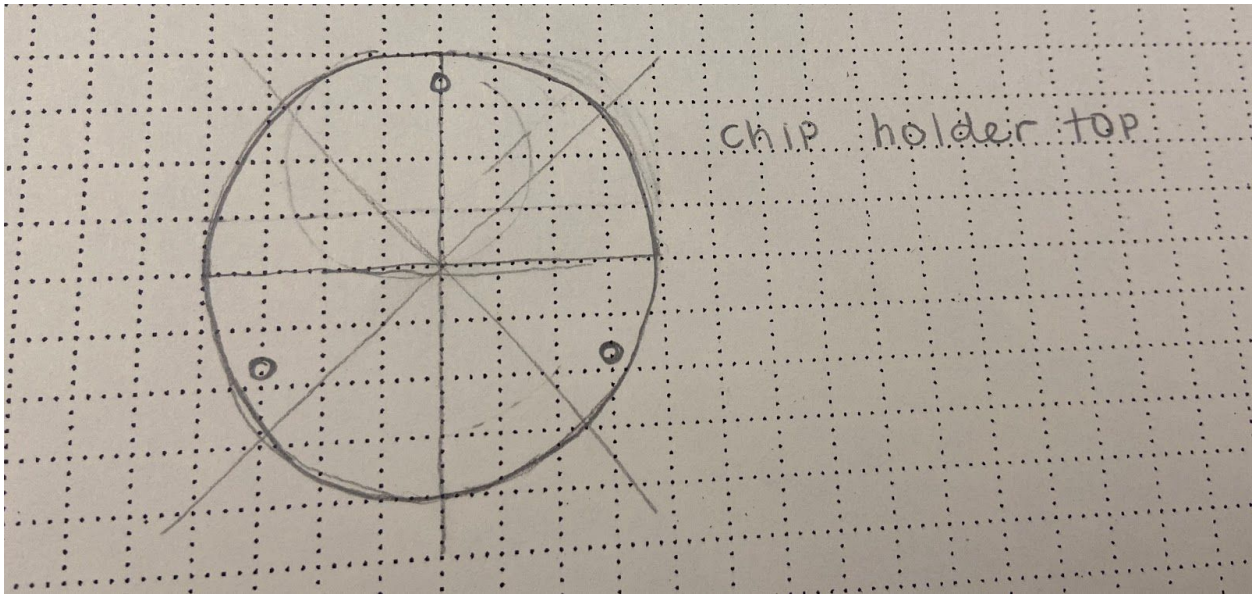
What are some treatment variables that you might want to test?

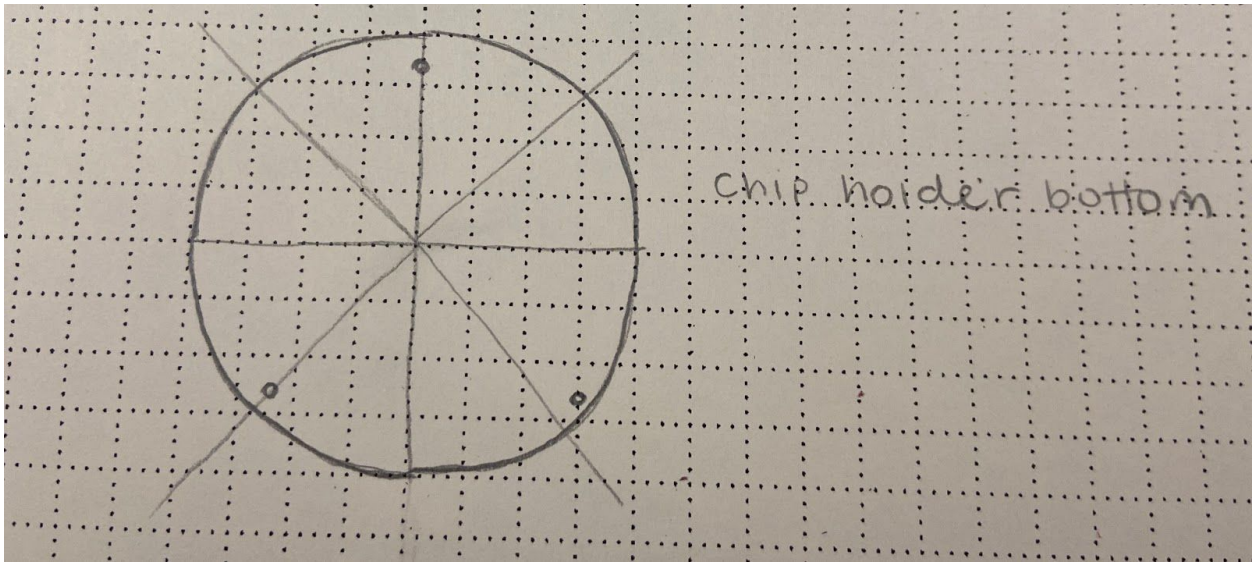
- Salinity
- Acidity
- Temperature
- Sun exposure
- Concentration

What kind of things could impact the strength of yeast biofilms?

- Type of yeast
- Glucose concentration
- Material of surface




chip holder top


chip holder bottom