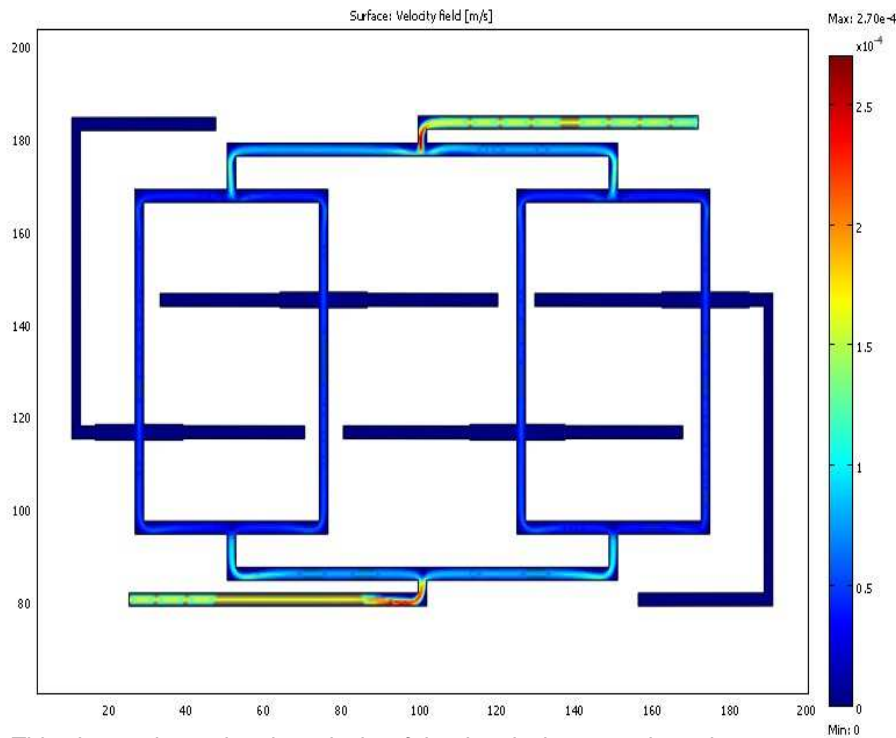


Design Changes in a Microfluidic Tumor-Mimicking Bioreactor

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This picture shows that the velocity of the drug is the same throughout every channel, therefore there is equal amount of drug being delivered to each tumor.

A microfluidic device has already been designed to test treatments such as this *in vitro*. This project consisted of expanding the old design by creating a microfluidic device that has multiple packing chambers (>2) because by having more packing chambers its possible to run multiple (>2) experiments simultaneously with different treatments.

One of the problems on previous branching design was that there could be only one packing chamber for each channel. The idea was to put two packing chambers in each channel by each facing in the opposite direction. The problem with this idea was that the design had to be expanded sideways so that the chambers wouldn't overlap each other. To solve this problem the chambers were moved so that overlapping wouldn't happen.

Therefore this designs exceeded the number of packing chambers of past designs and has reduced in size when compare to the other designs.