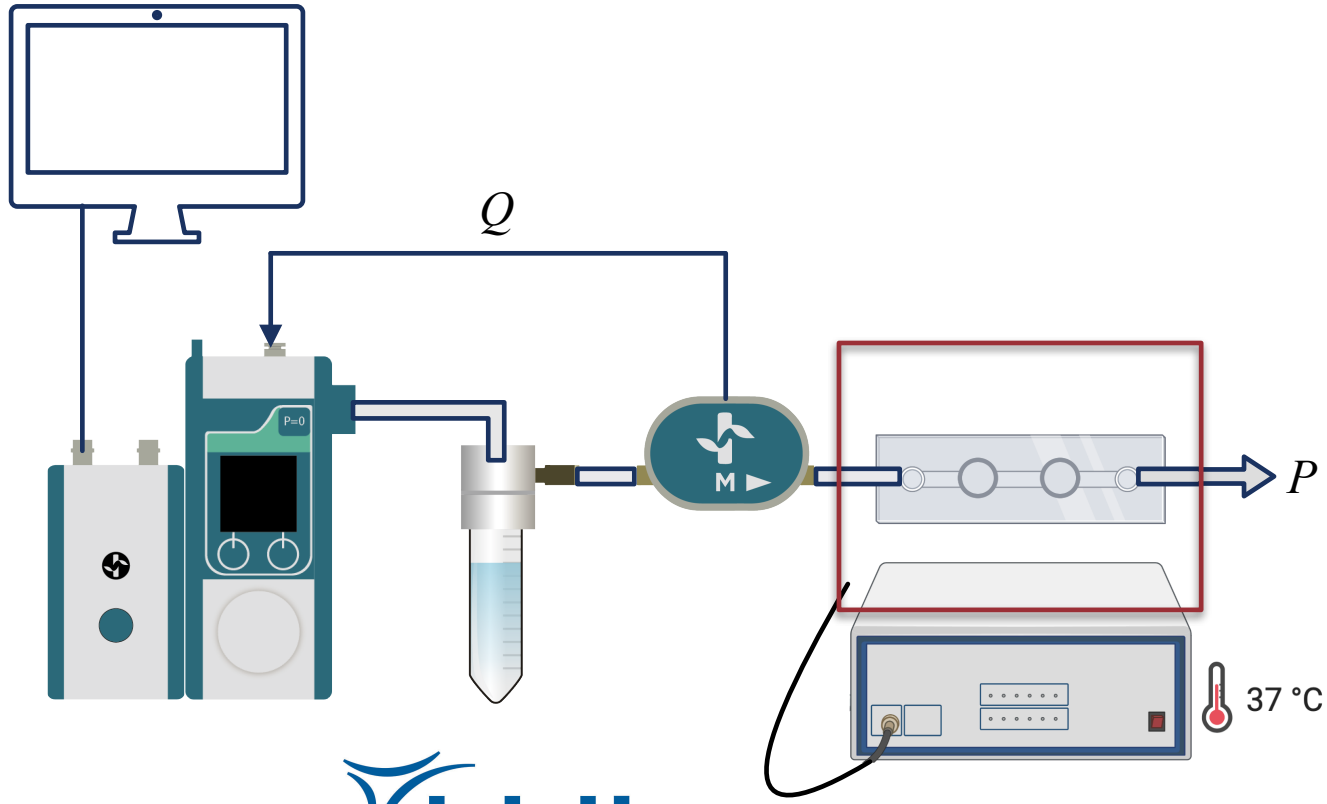
THE SETUP

- For fluidics experiments using Fluigent pressure controller and flow sensor
- oko-lab for temperature control
- ibidi microfluidic chip



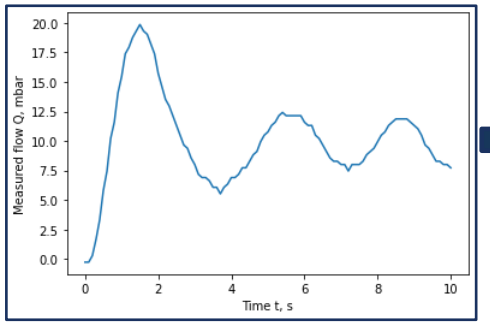
FLUIGENT
SMART MICROFLUIDICS™

okolab

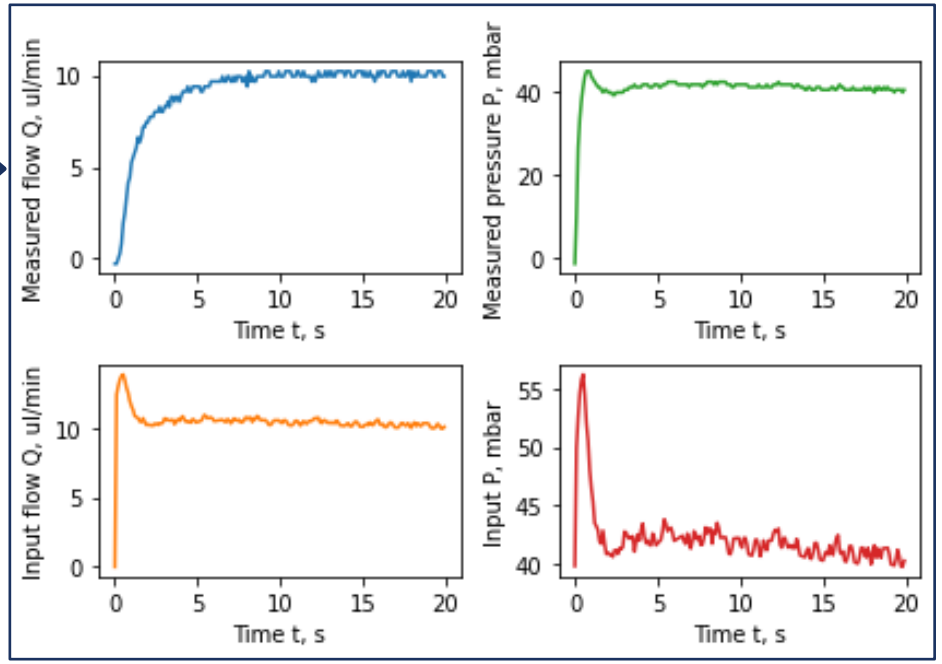
ibidi®
cells in focus

AUTOMATION

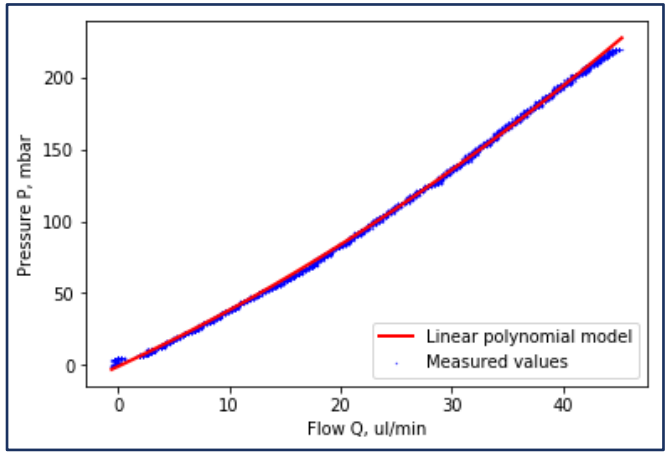
- Fluigent SDK can be programmed with Python
- P-Q relationship determined using polynomial regression
- Implemented PID control of flow - improved flow input compared to native control



Fluigent native control



PID control



P-Q relationship

$$P = -1.23 + 3.60*Q + 0.03*Q^2$$

varies with initial conditions

vary with the setup