# Tracebot manual

Connect laptop PC power, 3-axis stage power, pump power (for Bartel’s pumps), and USB from stage and pump to PC.

Start laptop, login password ‘nedyn’, connect to EMBL Guest WIFI and connect to EMBL VPN.

Mount (or access) tier1 (M:), browse to M:\Kai\Automation

Duplicate robot\_config\_template.yaml then rename the new file to make a custom config file. Change parameters in file as needed, most parameters should be documented in template config file. COM ports can be verified in Device Manager.

Open Anaconda prompt (miniconda3) in the start menu.

In command prompt, type:

M:

cd Kai\Automation

conda activate automation

python mw\_pump\_gui.py

In the GUI, select the custom config file created earlier, and press “Initialize robot”. If all is correct, stage and pump should connect.

Test the pump by setting a time (e.g. 10 s) and pressing Pump cycle.

If 3-axis stage is not already above well A1, manually screw the z-axis screw upward until ~1-2 mm from top.

Press “Zero stage”.

Manually screw (or carefully drive using coordinates maintaining z=0 and adjusting x and y) until inlet is just above well A1 in the 96-well plate (upper right corner on stage base when facing the stage).

Press “Zero stage” again.

The calibration and custom positions can be tested using “Move to position”.

Once the stage, pump and sequential setup have been verified, press “Start robot” to run the sequence. Unchecking “Restart?” will let the robot continue at the previously selected well from an earlier run rather than at the first well indicated in the configuration file.

“Stop robot” will allow halting the sequence at any point after the completion of the current command. Note however that upon restarting, the sequence will restart at the first command of the sequence, although the correct well plate position will be continued if unchecking “Restart?” as above.