**CHEMYX Syringe Pump MATLAB GUI Instructions**

To send commands to your CHEMYX syringe pump using a MATLAB-integrated GUI, follow these steps.

1. **Install MATLAB**
   1. **Basic Installation**
      1. Get MATLAB from <https://www.mathworks.com/products/matlab.html>
      2. Software was tested on MATLAB v.R2020a
2. **Run “control\_app.mlapp” in your MATLAB app editor.**
   1. GUI menu will open.
3. **Connect to pump**
   1. When starting GUI, serial port dropdown will auto-populate with any open serial ports. Press “Scan for Open Ports” to rescan and repopulate dropdown.
   2. Set the Baud Rate using dropdown. This rate **MUST** match the rate set on the pump (System Settings).
   3. Press “Connect” to connect to pump using defined settings. If successful, the “DISCONNECTED” text will change to say “CONNECTED” and the connection variables will be locked until disconnected from the pump.
4. **Set Single-Step Pump Variables**
   1. Set each pump variable according to specifications of the run.
5. **Start run and user control**
   1. Press “Start” to begin run with defined pump variables.
   2. Press “Pause” to temporarily pause run. Press “Unpause” to continue run.
   3. Press “Stop” to halt the current run.
6. **Disconnect from Pump**
   1. Press “Disconnect” in Connection Variables section to disconnect from pump.
   2. Alternatively, closing the GUI will close the connection to the pump.