Weekly report

1. **My *Goals* from last week**
   - Start navigating the coils with better, revised code
   - Revise IROS paper to be better!
2. **My *Accomplishments* this week**
   a. Magnetic Coil Setup
      i. We moved to the smaller paramagnetic particles that were already in Li's previous materials
         1. These move better, but have significant wall friction and will "drown" if too much downward force is applied. However, they are stable floating in aqueous solution
            a. We tried canola oil and the surfactant provided in the materials to try to alleviate the clumping problem, but that didn't help much. The particles will still clump together
      ii. The MATLAB code is now fully functional with Arrow key input
      iii. On a bigger square version of the polyomino assembly, the particles moved well but not optimally
      iv. The exclamation marks in the simulation can be removed by unchecking status in the view bar
   b. CurvedVasculature
      i. Bigger versions were printed out, the particles will move perfectly in this environment
   c. IROS Revisions
      i. The abstract and abstract only submission needs work

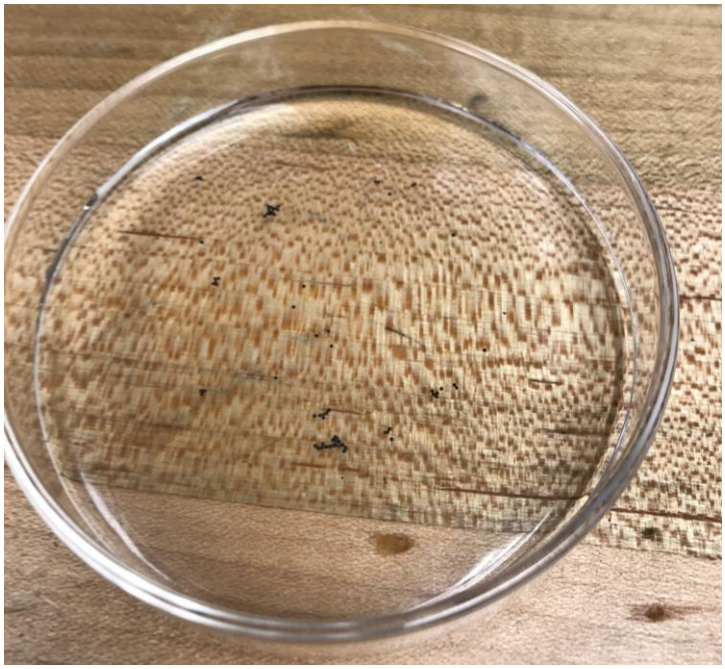

Figure 1: The paramagnetic particles

Figure 2: Initial design with water submerged and oil used to try to prevent wall sticking.

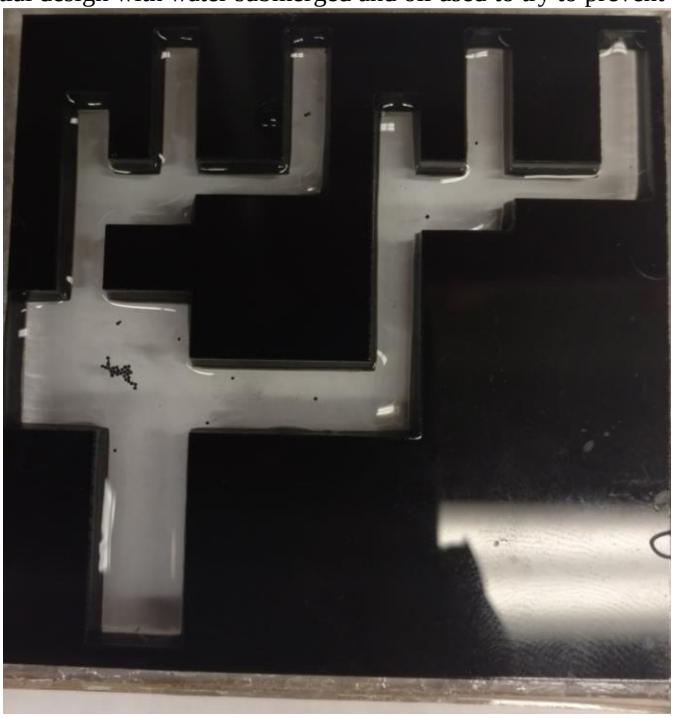

Figure 3: Final design of the maze printed on black acrylic and sealed with acrylic resin on top of a transparent reverse rasterized cutt

3. My *Goals* for next week

- Write algorithmic control code for the ROS simulation
  - Use the swarm framework to expand until variance level is met
- Design better magnetic particle control
  - Make the corner cuts curved to make the meniscus level with the water

a. Meeting with Dr. Becker when he gets back!

4. What I need Dr. Becker to do:

a. Enjoy the last week of his vacation