

**October 25:** Group meeting to brainstorm prototype ideas. We have focused on making the threading process more seamless for Dr. Hengen's group. This consists of developing a simpler jig to thread the carbon fibers through. We have also discussed methods that can be employed to solder multiple carbon fibers to a novel circuit. Several ideas have been discussed

- Using vacuum wave soldering technique
  - Problems could be introduced with the heat
- Dropping solder through the jig to allow for the liquid solder to only come in contact with the Carbon Fiber and via in the circuit board.
  - This can be achieved by applying the liquid solder to the jig while over a vibratome instrument surface.
  - A possible problem with this would involve liquid solder spilling over to other via, resulting in cross conductance.
    - In theory this can be bypassed, by applying a surface diet to the circuit board. This would eliminate the cross conductance problem.

Nicholas: "I spoke to Dr. Hengen and some members in the lab so figure out more about the jig design they wanted. I showed so 3D models to them and we talked about what would be possible. The labs wants to start printing and testing new jig designs to start narrowing down the perfect design. I need to get in contact with an undergrad who works in the lab named Kristen to see how the jigs will be built and learn more about working with carbon fiber. Everyone in the lab still seems excited about the progress we have made."