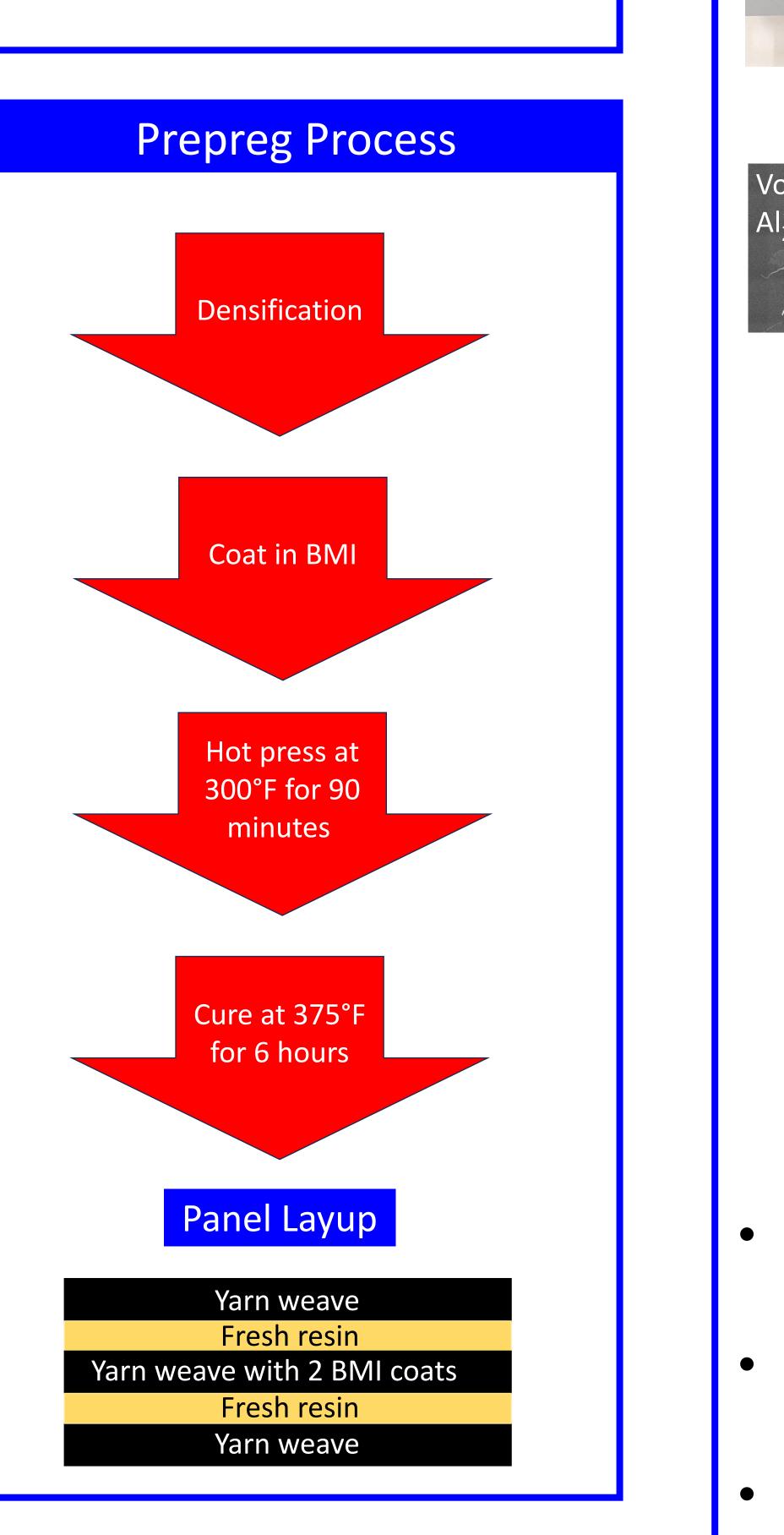




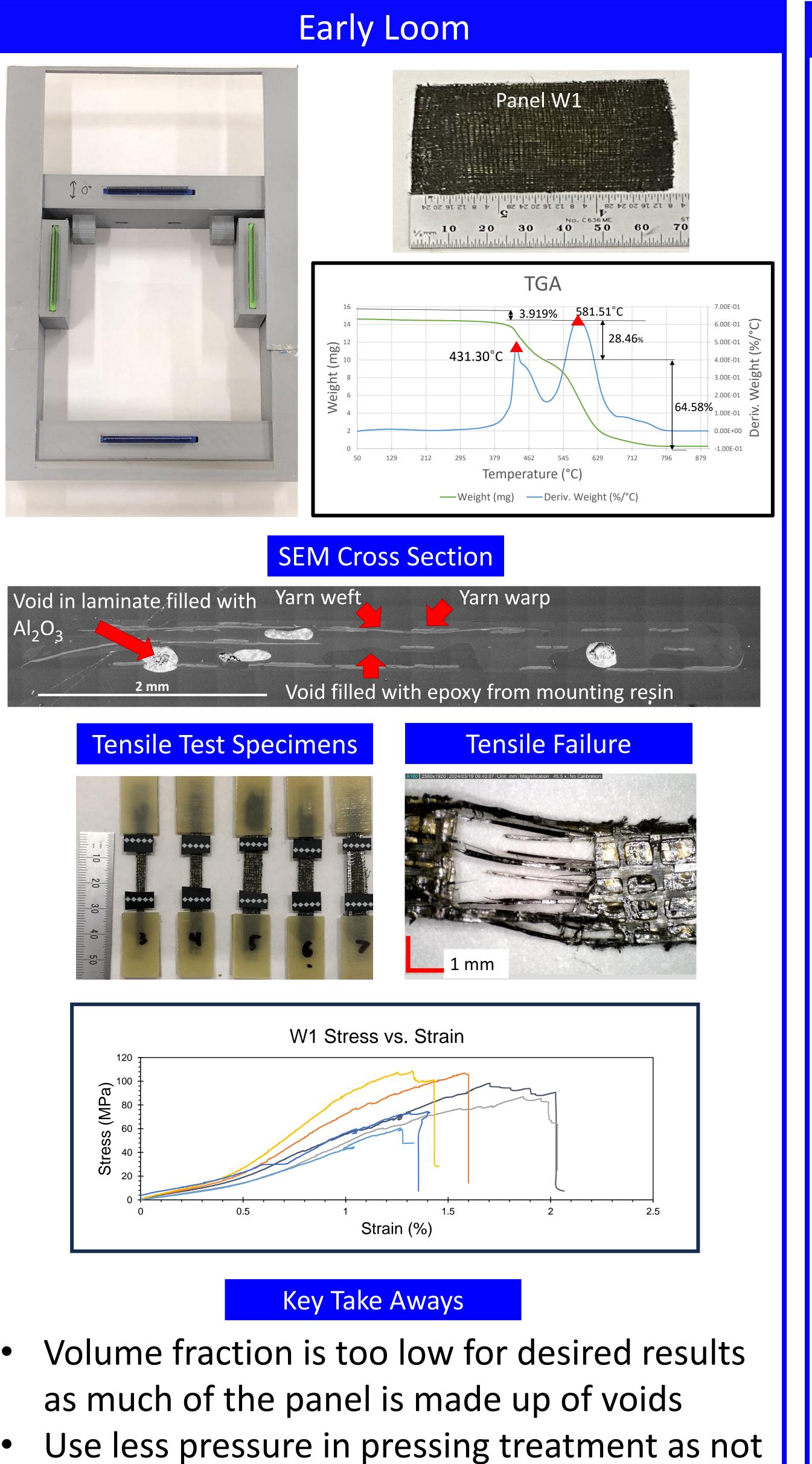
- To create a method of manufacturing woven CNT yarn panels
- Investigate mechanical properties of panels for use in NASA aerospace application





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# **CNT Yarn Woven Laminates**

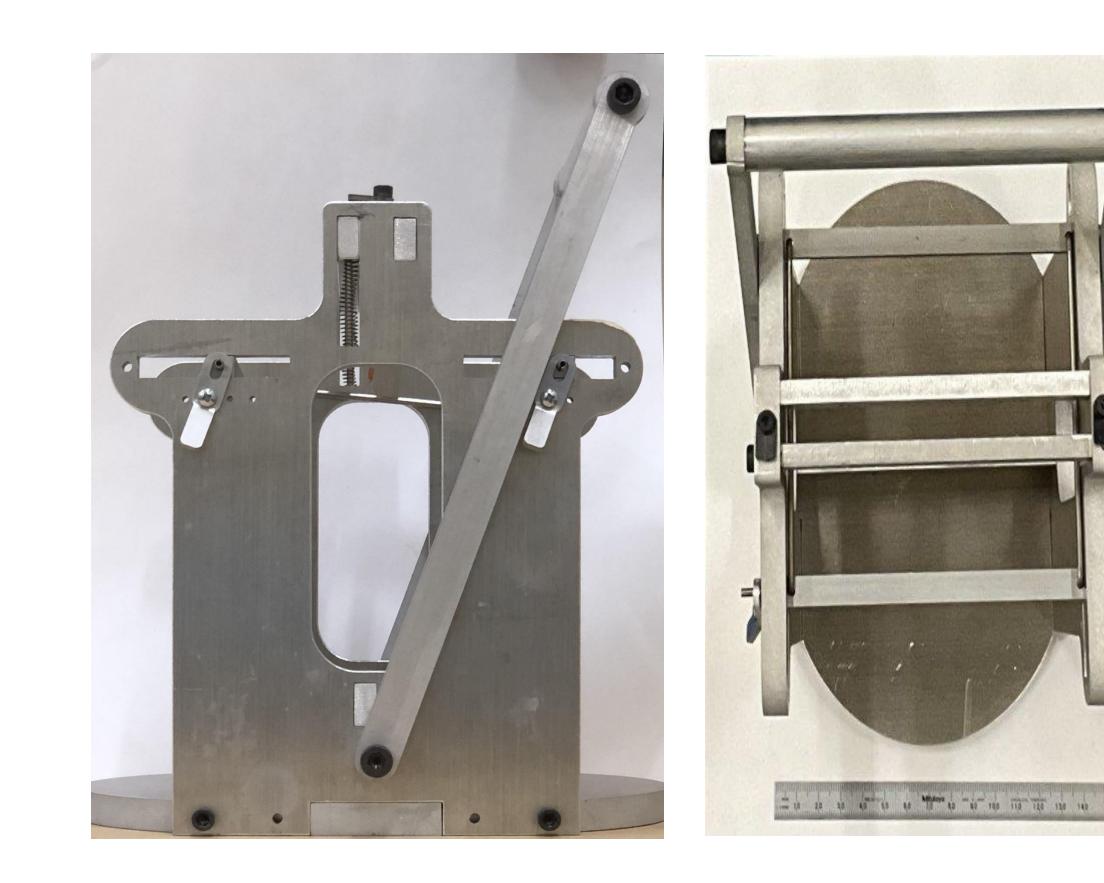
# Joshua Huls Mentor: Dr. Zhiyong Liang Tallahassee, FL, May 2023 – March 2024

to deform yarns

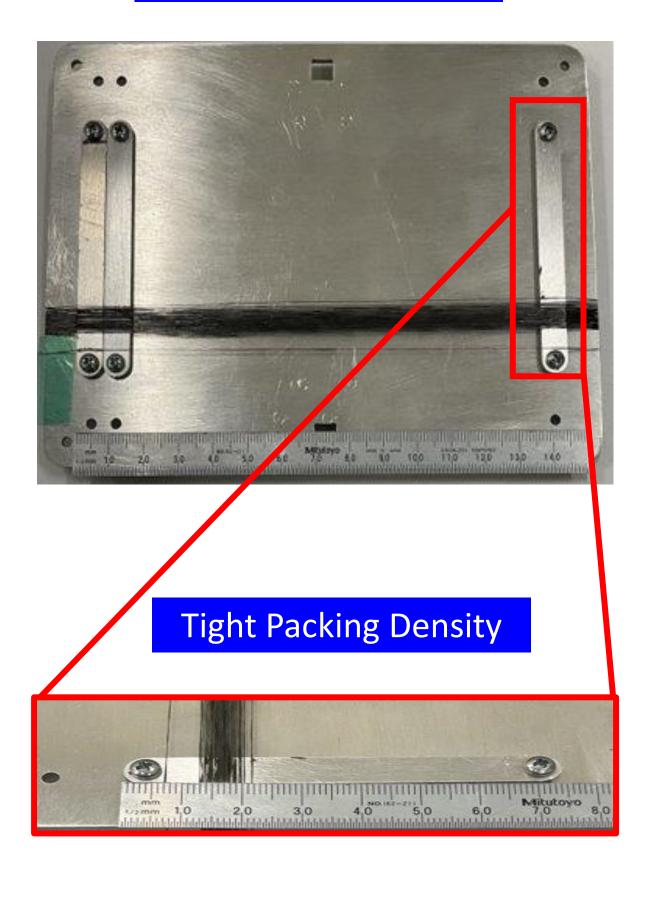
Use more pressure during curing process



#### Current Loom



Load Panel Post **Filament Winding** 

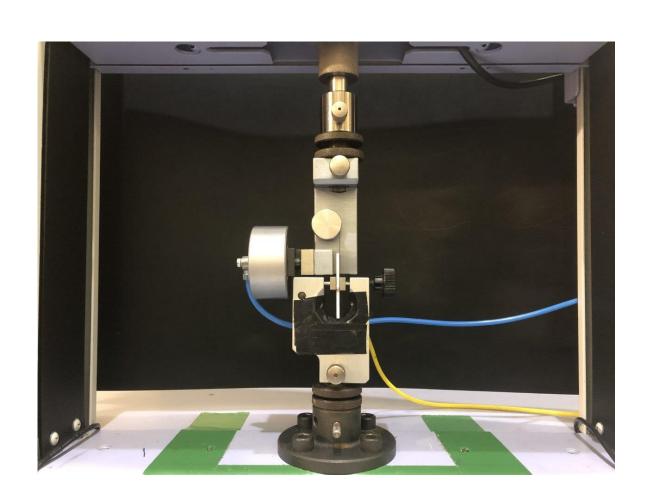


Key Take Aways

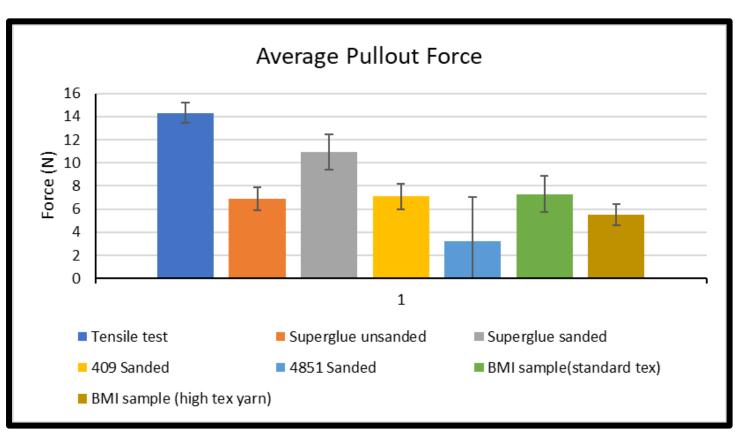
Improved alignment and packing density due to use of filament winder Improved manufacturing speed to double the

pace of early loom

## **Adhesion Experiment**



Pull out test performed to determine which adhesive binds to CNT yarns best for use on current loom.



Superglue specimens on sanded plates yielded the strongest average interface strength.

### **Adhesion Experiment**

- Manufacture panels using new loom and optimal adhesive method
- Perform mechanical testing on new panels
- Compare results to wrapped panels and W1

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