

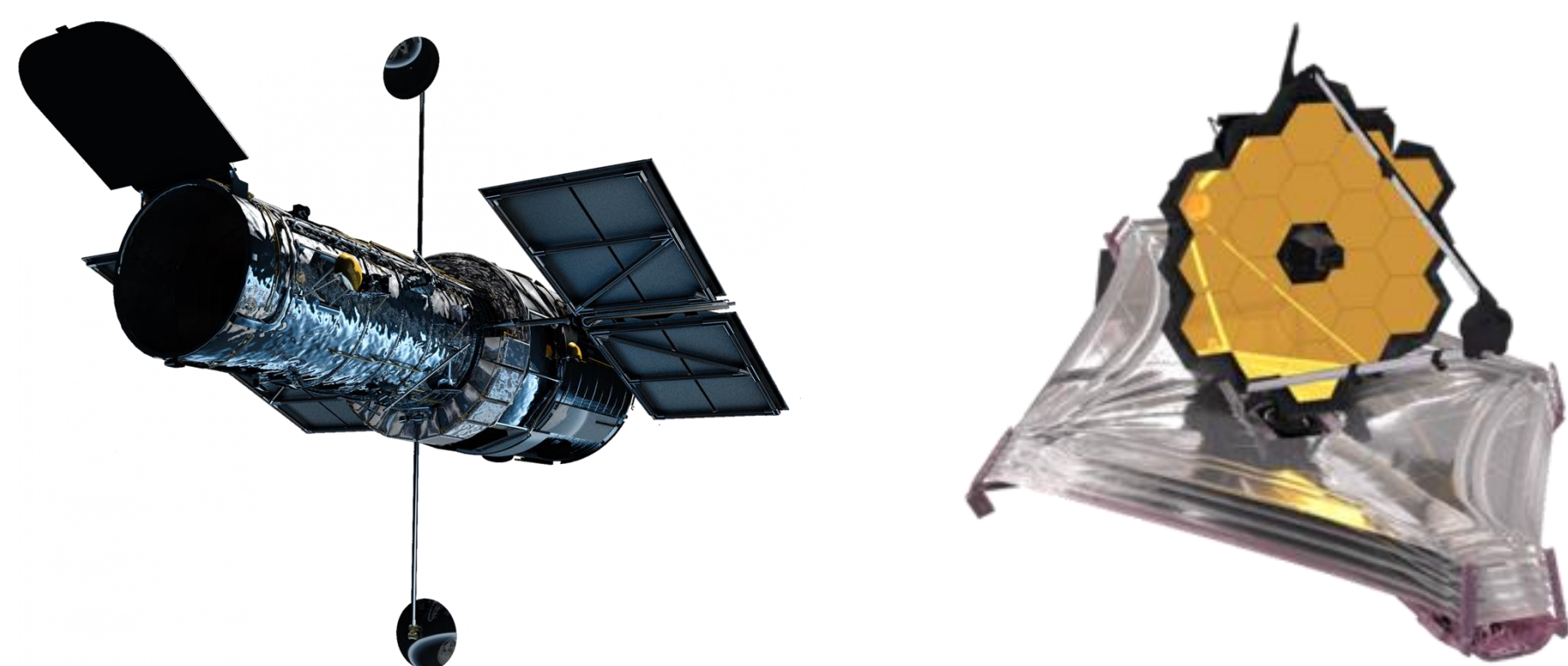


OMST Production Life Cycle: Adhesion Reduction Tank Project

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ABOUT ME

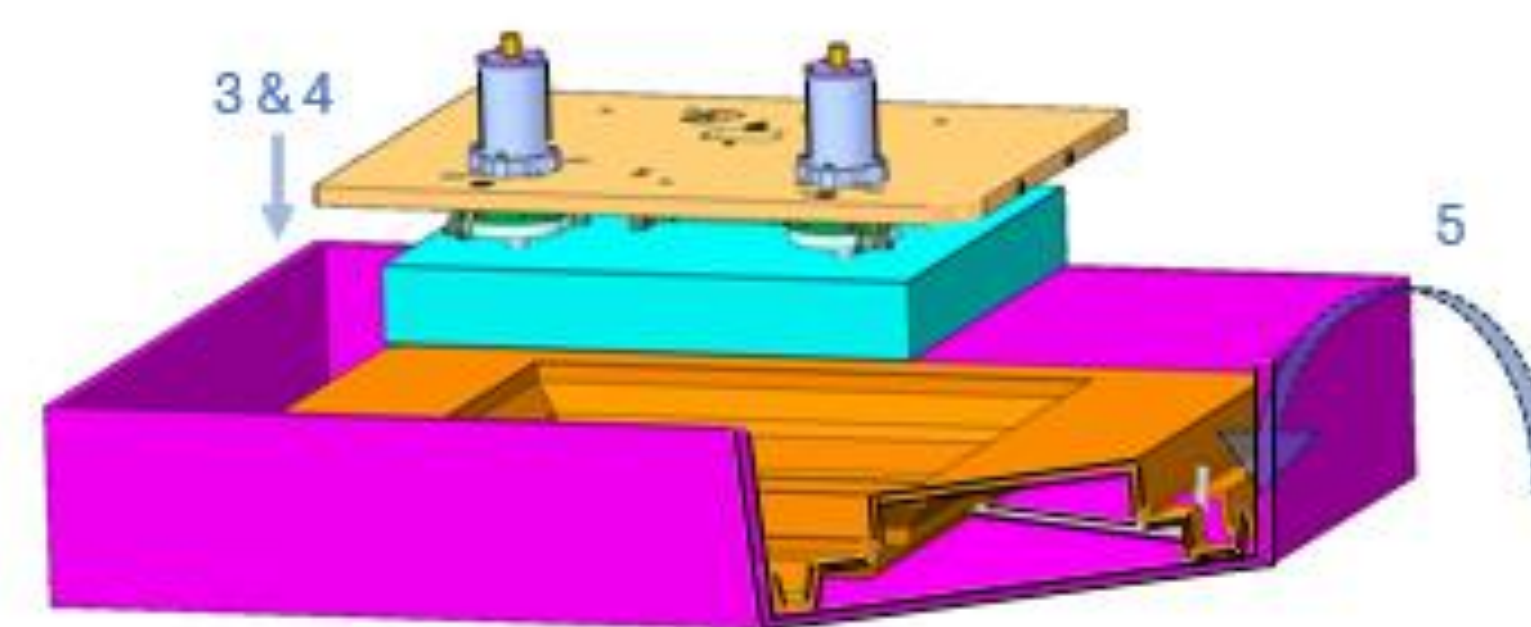
- **Major & Minor:** Mechanical Engineering major with a focus in Aerospace.
- **Career Goals:** I plan to delve into space development where I would aid in the advancement of space travel or space research. I love the science of it all, and to work on a prospect bigger than myself is ultimately what I would like to accomplish.
- **Why did you chose LLNL?** I chose the Lab because of it's reputation and mission. The proof of concept approach and the type of advancements the lab has made embodies why I love STEM in the first place.



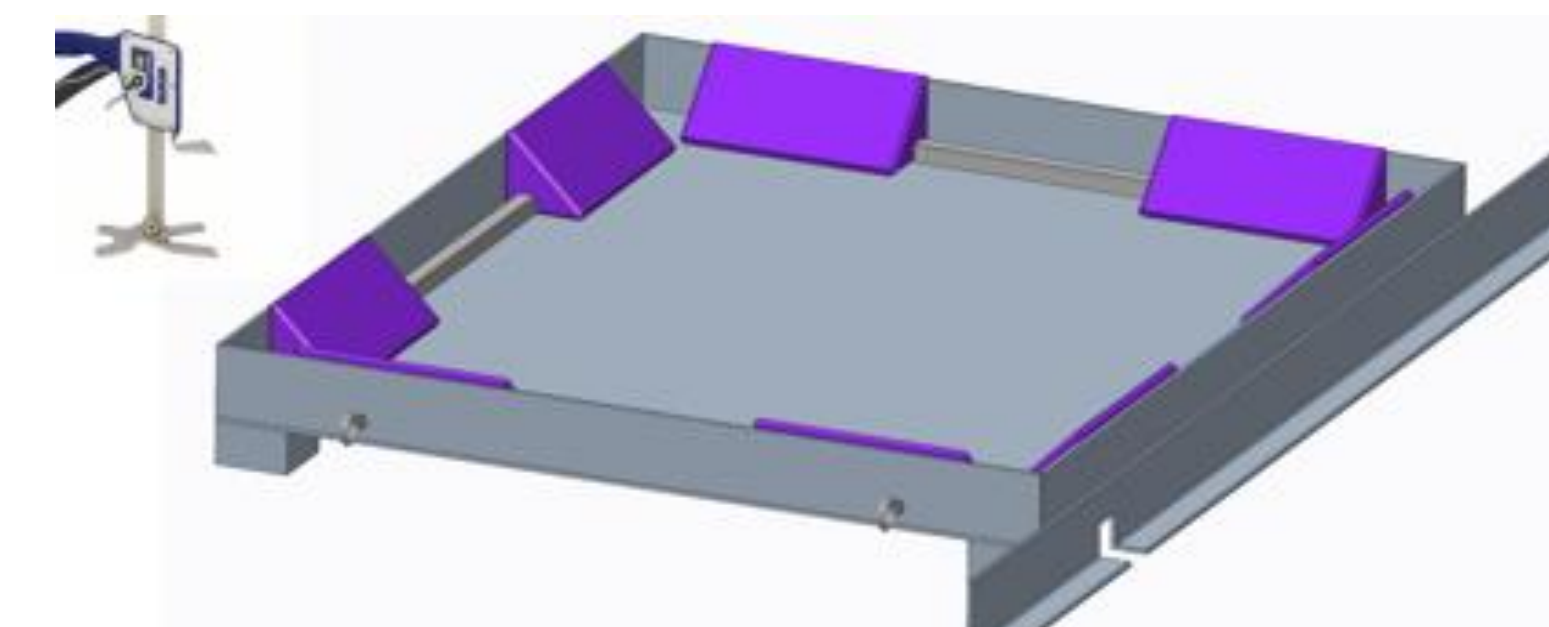
The Hubble Space Telescope & The James Webb Space Telescope

SUMMER RESEARCH

- The Adhesion Reduction Tank project was initiated to support a newly developed fluorosiloxane based coating that has shown a great increase in Air Knife efficiency to remove particulate and debris from the surface of optics.
- The motivation was to enable the coating of full-size optics for a pilot scale on the NIF Beamlines. This project extends to the LM8, LM7, and other mirror models.
- This matters because the project provides a clean-room compatible way to coat full-size optics using existing handling equipment, making the process safer and more practical.
- Previously, a PETG optic fixture was repurposed with an FEP liner and modifications to its design to accommodate for the coating process. Now with a newer demand for the coating of more optics, the reassignment slightly shifted requirement and design focus for a more robust fixture.



Old tank concept (reused PET-G container)



Newer stainless steel concept to be pursued

- Methods such as the OMST design process, CAD modeling, and reviews would be used to complete this project.

LLF AWARD

- **LLF Funds:** The funds granted to me from this opportunity will greatly help me cover living expenses and educational costs as I transition into being fully independent. This allows me to focus on my goals academically and long term without as much financial stress.
- **How is this fellowship impacted you?** The opportunity to work alongside experts, gain experience with engineering processes, and contribute to projects with real impact in my short time here has exceeded my expectations. I can not express my gratitude enough for what my time has taught here me.



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