Hello my name is Jim Less, call sign “CLUE”, I am a Research Pilot, here at Armstrong Flight Research Center.

One of the more interesting projects I’ve worked on here at Armstrong is the LVAC project. That stands for Launch Vehicle Adaptive Control.

It is a project where we used a F-18 to simulate a rocket. We were able to get a lot of data simulating dozens of actual launches, we were able to simulate failure conditions we were able to try different control laws and see what would work best.

The flight profiles that we flew, attempted to simulate a rocket taking off from a launch pad and making it’s turn as it climbs into orbit.

In order to do that, I would pull the nose of the F-18 up to approximately 30 degrees, nose high and then fly, almost a ballistic arc from 30 degrees nose high all the ways to 30 degrees nose low.

Some of the maneuvers, I would actively try to follow a command, a steering command and fly the rocket myself the simulated rocket.

Others, we let the auto-pilot try to do it and see, see how well it performed.

The LVAC Project, is just a small piece, one of the stepping stones to getting us to Mars.

It will get the next generation of launch vehicle or rocket off the ground.

This rocket, the Space Launch System, is designed to carry the Orion Space Capsule, which will be the next spacecraft, getting American Astronauts back into orbit.
I’m very proud to be a part of the LVAC Project, helping NASA turn science fiction into science fact.