
My NASA Data - STEM Career Connections

Meet Keith Deweese, Guidance Navigation & Control Lead



Job Title

Guidance Navigation & Control Lead

Work Description

The Guidance, Navigation, and Control Lead basically is in charge of all of the components to make sure the spacecraft is pointed where the scientists want it to be pointed.

NASA Connections

It takes hundreds of designers, engineers and technicians to build the largest spacecraft ever assembled at NASA's Goddard Space Flight Center, the GPM Core Observatory. GPM actively collects data on Earth's phenomena, like El Nino.

Check out Keith Deweese, Guidance and Navigation Control Lead.

Credit: NASA GSFC, GPM

[Video: Meet the GPM Team: Keith Deweese](#)

Video

Meet the GPM Team: Keith Deweese | <https://www.youtube.com/watch?v=GlaLKbC8jiw> | Source: NASA Video

NASA Professional Profile

We [the GPM team] track how the satellite is moving around the Earth, and how the Earth is moving around the Sun. We have algorithms on-board that allow us to turn the spacecraft one direction or another to make sure that we keep it thermally safe and power positive. We have other algorithms that keep our orbit, because the orbit degrades over time so we have what we call thruster maneuvers and delta-v maneuvers which allow us to raise or lower the orbit. We have a very large spinning instrument on the GPM called the GPM Microwave Imager, GMI. Because it's a spinning object, it introduces jitter to the whole spacecraft, so the whole spacecraft kinda shakes with it. We can't test that on the ground, so it'll be a nice culmination to the seven years of work that I've spent on GPM.