

Tracy Drain



Tracy D. Drain is a Flight Systems Engineer on NASA's Juno Mission to Jupiter and the Technical Group Supervisor for the Flight System Systems Engineering group at NASA's Jet Propulsion Laboratory in Pasadena, CA.

Tracy was born and raised in Louisville, Kentucky, where she graduated from Waggener High School in 1993. She attended the University of Kentucky to pursue a Bachelor of Science degree in Mechanical Engineering. While at the university, she interned at the NASA Langley Research Center Virginia. After graduating in 1998, she went to the Georgia Institute of Technology. She received her Master's Degree in Mechanical Engineering in May of 2000.

In June of 2000 Tracy began working at JPL, where she has been involved with a variety of deep space missions. She joined the Mars Reconnaissance Orbiter development team in May of 2001. In the four years prior to MRO's launch, she was involved with tasks such as the development of Project System requirements and Mission System Fault Trees, and running simulations of faulted mission scenarios. After the August 2005 launch, Tracy led the team in planning for the 2-month checkout period just before the science phase and she eventually became the Lead Systems Engineer on the Flight Engineering Team. MRO is still orbiting Mars and returning valuable science data about the red planet; it also serves as a communications relay for the rovers currently exploring Mars.

Tracy left MRO in the fall of 2007 to join the Kepler project, which was preparing for a March 2009 launch and a mission of hunting for Earth-like planets orbiting other stars in our Milky Way galaxy. As the Mission Readiness Lead on the Project Systems Engineering Team, Tracy ensured that the plans for testing and executing the activities associated with each of the mission phases were completed thoroughly. She worked closely with multiple teams to verify that mission timelines and operations procedures were fleshed out, to identify and mitigate risks and to review test procedures and results. For the launch and check out period, her duties included assessing anomalies and leading the Anomaly Review Board in directing the operations team through the execution of contingency procedures.

After Kepler's check out period ended in May 2009, Tracy joined the Juno project on the Project Systems and Flight Systems Engineering teams to focus on Fault Protection oversight. Before Juno's August 2011 launch, her work included tasks related to requirements verification and system level testing. Juno is currently in the Cruise Phase (on its way to a 2016 arrival in orbit around Jupiter). It has been an exciting journey so far, including 2 Deep Space Maneuvers in August/September 2012 and an Earth Flyby in October 2013. Currently in operations, her responsibilities include working to resolve anomalies as they arise and preparing for the upcoming Jupiter Orbit Insertion and science phase in 2016. Once it begins its science mission, Juno will study the giant planet's gravity and magnetic fields and learn about its structure. That knowledge will help scientists learn more details about the early history of our solar system.

In February of 2013, Tracy took on an additional role as the Technical Group Supervisor for the Flight System Systems Engineering group. In parallel with her continued Juno duties, she provides guidance and oversight to the other engineers in the group, who support a variety of JPL missions.