





a trip to outer space

Joy Ng is a visual storyteller for NASA

Joy has always had a wild fascination for the outdoors. She grew up in a bustling coastal city in the UK, in an immigrant Asian household. There was a huge focus on education, but when her parents were working Joy was given free rein to explore. Her bum was often glued to her bicycle seat while she rode for miles – inspecting insects, trees and rivers – and gazing up at the stars dotted across the night sky. This helped cultivate her curiosity, not only in space, but the natural world. Now she rides her dual sport motorcycle, rock climbs for fun and produces videos for a living in the US – at the Goddard Space Flight Center with the National Aeronautical Space Administration (NASA).

What does your work involve? The way our team is structured, each producer is responsible for the entire production process of their own pieces, which means I research, write, shoot and edit all my videos for platforms like YouTube, Snapchat, Instagram and Facebook. I focus on Earth Science and Sun Science, also known as Heliophysics.

How did you land this job? I saw a job posting online and applied. I was working in London at the time so I had a phone interview and a video call with a panel. It was nerve-racking!

What kind of videos have you produced? A lot of my work focuses on new science discoveries and stories related to current spacecraft missions. Last summer NASA launched a spacecraft towards the Sun called Parker Solar Probe and one of the mysteries it plans to better understand is why our Sun's atmosphere is hotter than the Sun's surface. So, I created a video about this 150-year-old mystery.

During the 2017 total solar eclipse, many science teams conducted experiments so I produced a piece about what had been discovered in previous eclipses. NASA also has a satellite that measures global rainfall and snow called the Global Precipitation Measurement Mission. I worked with a data visualiser to re-create what that data would look like in a 360-degree video of Hurricane Maria.

What's your process when making a video? The first thing I do is pitch a story for a particular platform – the ones chosen are usually timely and associated with NASA's main goals. For example, NASA made an announcement recently about aiming to put the next man and first woman on the Moon by 2024. I recently discovered there was a potentially lethal flare that occurred during the Apollo-era so I am looking into that. This also ties in with the 50th anniversary of the Moon landing.

Once I get the go-ahead on an idea, I dive into research. I speak to scientists, I read around the subject to figure out what we know and don't know, I form a list of potential imagery options, and I figure out if there are any analogies I should use for abstract science concepts. As I'm researching, I'm asking myself, how do I tell this story visually? How do I structure this in a way that makes sense? And how do I keep the viewer watching to the end of the video? Once I have that figured out, I start shooting, editing, and animating. Sometimes I work with our conceptual animators and data visualisers to create animations as well.

What were you passionate about first – storytelling or science? It's hard to say because I loved reading and watching films as a child, but I think it was science.

I don't think I ever envisaged myself as the storyteller. At school I was lucky to have a couple of teachers who helped foster my love for science. I also loved art, but it wasn't until university (when I was studying biology) I realised I could combine the two, in the form of filmmaking. I'm drawn to science-related stories; it's a field that's connected to humanity and constantly changing. I'm also passionate about magnifying women's voices, especially women in science and minority groups.

What's been a career highlight? I recently travelled to Svalbard, a small island about 600 miles from the North Pole, to film an international science team's attempt to launch rockets into the northern lights. It was an experience I'll never forget.

I learned so much about what it takes to successfully put something into space, the types of people that make it happen, and what it's like not to see sunlight for several weeks!

How has your understanding of the cosmos changed? My job is to interview scientists about their work so I am constantly learning new things about our planet and universe. A lot of astronauts who have travelled to space talk about the "overview effect" – how their perspective of Earth shifted when they witnessed Earth from a distance. I feel like I have had this paradigm shift of how I see science. I used to see science as this fixed, definitive way of seeing the world, but now, I see theories grow and concepts changing all the time. It's a hugely dynamic world that's morphing as we learn more.