A radiologist is somebody who interprets images. From different parts of the patient’s body. And we can do x-rays, we can do CT scans, we can do MRIs, we can do ultrasound, based on what disease you’re trying to see if the patient has. My name is Deborah Kwon and my area of expertise is cardiology or the heart.

Our focus is acquiring images that assess the heart’s function, the valve function, how well the ventricles are squeezing, as well as seeing if there’s diseases of the muscle tissue itself.

The heart to me is a fascinating organ in the sense that it is a pump, and so our arteries can be thought of as pipes and the physics that are applied to flow through a pipe can be applied to the heart.

Every day for me is a little bit different. I have the luxury of being able to read all different types of modalities within the heart, so, um, on a Monday, for instance, I read ultrasound of the heart, or echocardiograms. On Tuesday, I read CT scans. On Wednesday, I see clinic patients. On Thursday, I read MRI. And on Friday, it’s usually a research day for me. I’m also very involved in research projects as well.

For reading scans we’re highly dependent on the computer. These images are digitalized, and then they’re sent to the computer and then we interpret them.

This is an example of an echocardiogram. So here you can see the beating heart. Then we apply what’s called color Doppler, and this is very similar to the weather Doppler that you see on The Weather Channel, but instead of wind, we’re studying the velocity and direction of bloodflow. So here you can see that there’s a leaky mitral valve as well as a leaky aortic valve. This blue and yellow color coming backwards is bloodflow flowing this way, which is the opposite way of how blood should be flowing.

I think on a daily basis, I’m constantly using math. We have to calculate gradients and flow and so we’re constantly using that on a daily basis.

I think my favorite part of the job is being able to see images that are, I think, fascinating -- that you can see a beating heart. And the thing that I think is so fascinating about cardiology in particular is a lot of the diseases are curable, whether it’s through surgery or very treatable through medications and you can actually see patients getting better and actively prolong people’s lives.