



video transcript

Day in the Life: Chemist

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I always liked puzzle solving, even when I was young. I would take apart everything that I touch. I may not be able to put it together, but I'd take it apart.

My name is Yaya Zhu. I'm a chemist at Richmond Technology Center.

We receive material from the refineries all over the world. Usually during cleaning, they will find something that they're not expected, or they find certain issues coming up more frequently than expected. And the engineers collect the materials, and they need to know what it is.

We bring a lot of samples to x-ray fluorescence lab, and x-ray diffraction lab. It's complimenting each other, those two tests. By looking at the signal from the scans we can understand what is the most abundant element, and we can see the clear diffraction pattern. Based on that, we can search the database and find out what exactly it is.

I really enjoy working here. It's really great because the team is made up with people from all kinds of backgrounds. There're so many things I can learn from them. I really feel like it's a nurturing environment. I never thought I would go back to school after graduating from college, but it happened because the people I work with.

It's interesting to get to work on different materials every day. It does not always follow text book examples. So that's when I realized, "Oh, there's actually a lot more to learn." What we find in the material, it really helped. The engineer can use that information for troubleshooting and optimizing process, in terms of operation or safety.

Part of it is like putting together a puzzle. You're holding some piece, but you don't know where it belongs until you find more information. And then, if we can put everything together then... we solved it!