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An 'Amazing Opportunity' on the Medical Frontline

An interview with **Shana Kelley**, Pharmaceutical Scientist
University of Toronto

We develop tools that really enable personalized medicine. Personalized medicine is all about having enough information about a patient's disease so that a drug can be selected for that specific type of disease. In order for that to work, you have to be able to look at the molecular-level characteristics of a patient's disease to understand which therapeutic is the right match for it. We work quite a bit on new tools that allow this molecular-level information to be obtained.

What is AuRA and why is it important?

AuRA is an approach that we developed that allows us to look at nucleic acids molecules in samples. The AuRA technology is particularly effective for the diagnosis of infectious disease. It allows us to get a really rapid read on whether or not an infectious pathogen is present in a sample. And rapid diagnosis of infectious disease is very important to limit the spread of infections, and also to limit things like antibiotic resistance.

In the developing world, there are many types of infectious disease that are really rampant and very problematic — things like Hepatitis C, tuberculosis. These are difficult infections to diagnose, and in parts of the world where you don't have sophisticated laboratories where samples can be analyzed, it's really helpful to have nice, portable tools. And our AuRA approach is amenable to being incorporated into a very portable type of testing system.

What's the future promise of your research?

We have an amazing opportunity to really push the frontiers in terms of the types of tools that we can give to physicians that allow them to practice medicine more effectively and provide better care for their patients. So that's an incredible opportunity, an incredible type of problem to be able to work on every day. So it's pretty easy to get out of bed every morning with that waiting for you.