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### **Tools of the trade: Designing new technologies for chemical analysis**

Analytical chemistry plays a critical role in improving the way we work, live and interact with one another, and the world around us. But to do that, we must first know what we are dealing with. If we can measure it, we can (try to) understand it. From microscopes to mass spectrometers, scientific instruments are essential to chemical toxicology. But what if the tools don't exist yet to make a measurement? Simple – you build one... This presentation focuses on some of our past endeavours to design and build technologies, specifically as they relate to the analysis of biological systems. While we've had several successes, I'll try to give you some inside perspective on the research process. *Spoiler alert – things don't always come easy!*