

Interview with Eric R. Kennehan, CEO/CTO

Why did you become a scientist/chemist/researcher?

E.K: I became a scientist because I always wanted to understand how everything worked. As a child, this meant taking apart anything and everything to find out how things were built, and why brands or designs worked better than others.

As I got older and entered college, I began to be more and more fascinated with the laws of the universe and why things happened the way they do. This led me to pursue degrees in Chemistry, and in particular physical/analytical chemistry, because these areas of research are really all about studying why things happen.

Have you thought about how these products could change the world?

How so?

E.K: Absolutely. I think about this at least once a day. It may seem a bit cliché, but I really hope that there is a lasting impact from our products and they improve the world. When the technology was first invented, I imagined how amazing it would be for every scientist to have access to the technology, because it had improved the accuracy of my work so much in such a short time.

I was able to become successful as a scientist and discover some pretty impactful, fundamental properties of a material because of the instrumentation that I had access to. I wanted scientists to have access to this technology so that they didn't have to waste so much time trying to make a measurement, or publishing inaccurate data because "it was the best they could do with the equipment available to them".

I hope that someday I can look back and identify all of the technologies that were enabled because our tools allowed researchers to solve problems. If I didn't have that goal in mind, I think I would just be wasting time.

What inspired you to create these products?

E.K: I have a passion for details, I am always trying to improve everything, and I want to constantly push the boundaries of everything. I had a coach back in high school who used to always say, "*we're happy, but we're never satisfied*" and that has stuck with me throughout the years.

In undergrad, I redesigned and improved a homebuilt laser system that measured laser induced fluorescence to detect trace concentrations of metals in samples. At the time, the system that I constructed had the lowest detection limit of any other instrument utilizing the same analytical technique. This was a really rewarding experience.

When I got to graduate school, I started doing transient absorption spectroscopy using the instrumentation that was built by students before me. Using these old systems was always really difficult and required a lot

of time and effort to get sub-par data that you then had to spend more time “ working and massaging” so that it was good enough—and valid enough--to present.

At the same time, I also saw how research labs that had a lot of money, labs we were competing against, were able to collect better data than us, publish more frequently, and then have better odds at obtaining additional grant funding.

All of this was frustrating and made me really want to try to improve the systems that we had, using the resources were available at the time. I had ideas on what could be improved, but I had to....let’s just say *be patient*.

When did the final straw for me? It came when I was physically in the lab more than 250 hours over the course of 15 days trying to collect data. Basically I had some deadlines that I needed to meet and made sure to meet them. So it was in an extremely irritable and tired state that I decided that I needed a way to implement my ideas to try and improve the technology, no matter what.

For me,, this was my beginning at Magnitude Instruments.