Dr. Jeffery Barrow: My name is Jeff Barrow. I came to BYU after my mission back in 1987, I was an MMBIO major, always wanted to do genetics. I'd been fascinated from my freshman biology class, well even before my freshman biology class, in science. Just was very fascinated with the genetic code, DNA, and what it does, basically the instructions to make proteins, and so that always just raises a bunch of interesting questions like how can genes, which are the instructions to make proteins, how is it that we look the way that we do? Well certain questions are answered pretty easily when we think about eye color or hair color, proteins being able to make our hair a certain color or things like that, that's kind of easy for us to imagine, but when we think about traits like a nose, why does our nose look like Dad's nose, it's not so obvious how a protein can make shapes, and that's basically the big question that we address in my lab. It's just trying to figure out how genes regulate the size and shape of various organs. I went on to the University of Utah where I got my PhD. I worked with a Nobel Prize winning researcher at the University of Utah, Mario Capecchi, who had developed technology to basically create any mutation you wanted in the mouse and then get those mutations back into the mouse. When I got my training in the mouse. But there were a lot of questions that we couldn't quite address in the mouse because the mouse develops inside of a uterus, so we switched to the chicken a few years ago. And the chicken is great because you got this egg that is external to mom. We can open up little windows in the egg. The chicken is also just an incredible agricultural importance it's the most consumed meat on our planet. Perhaps being able to genetically modify chickens we'll be able to even improve our ability to use the chicken as a source of meet and eggs. I have always had a lot of students working in my lab, I mean basically the way that I organize my lab is that we have different groups and together we get those cells back into chicken embryos, take those eggs where we've injected the chickens, we incubate them for a couple of weeks and we hatch them out and then we raise the chicks to adulthood. And they pass on their genetic modifications to their chicks. Just a pretty big team where we all work together on this goal of making genetic modifications in the chickens.

Text: BYU College of Life Sciences