**Transcript**

***Luke Formosa – When the mitochondrial powerhouse breaks down***

So my research, I’m working in mitochondrial biology and mitochondrial diseases. And basically mitochondria are the main sites where energy is produced in our cells. And I’m really interested in one of the enzymes that produces energy from our food and how this goes wrong in disease and how it leads to mitochondrial diseases.

So, this is a really large enzyme and it needs a number of steps in order to make the enzyme to be fully functional and I’m working on proteins known as assembly factors which help guide this process. And, at the moment the way these proteins actually work it’s not well understood so I’m trying to understand what these proteins are actually doing to form the complete enzyme.

So, a number of people have been diagnosed with mitochondrial diseases from having a deficiency of these proteins and so what we’re hoping to do is through this research is to understand what’s happening in the normal state and also what’s happening in the diseased state that leads to the mitochondrial diseases coming up. So we want to try and improve our knowledge of how these proteins are working and to hopefully one day introduce better diagnosis and better treatments and hopefully a cure for these mitochondrial disorders.