

# Child Health Research CIO

## CHILD HEALTH RESEARCH CHARITABLE INCORPORATED ORGANISATION (CHR CIO) PROGRESS FORM – VACATION STUDENTS

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| <b>Student's name:</b>     | Hannah Johnston                                  |
| <b>Academic Programme:</b> | Genetic & Genomic Medicine                       |
| <b>Project title(s):</b>   | Novel Biomarkers for Hypertrophic Cardiomyopathy |

### 1. Lay Summary

#### What are you trying to do in this studentship?

The aim of this studentship has been to re-design the assay based on the new biomarkers for hypertrophic cardiomyopathy (HCM). New biomarkers have previously been identified to human HCM and I will identify the feline and mouse versions of these proteins in order to make the test applicable to mouse and feline samples. The development of this assay will also look at heart specific proteins which I will identify and test using mass spectrometry.

#### Why is this research important?

Hypertrophic cardiomyopathy (HCM) affects 1/500 people in the UK which can cause heart failure. An assay based on the new biomarkers could be used to develop a blood test for diagnosis and monitoring of the condition. This is currently based on human proteins but this research aims to transfer this to animal models. A feline based test is important as HCM is even more prevalent in cats than in humans meaning this test could be of use to both humans and cats.

### 2. Value of Your Experience

I have gained many key laboratory skills which I will be able to use in a possible future career in research. I have learnt specific sample preparation techniques, including precipitation, digestion and solid phase extraction of proteins and the basics of a mass spectrometer. I have also had the opportunity to practise gel electrophoresis and digestion of proteins within these gels and learn how to use new equipment in the laboratory. In addition laboratory skills, I have learnt how to analyse the data I collected using specific software and experience first-hand how research is conducted within the department. This experience has given me an insight into current research at the ICH and the opportunity to speak to a variety of individuals who all have a wide range of experience in research.