AAIR Charity
ASTHMA, ALLERGY & INFLAMMATION RESEARCH

Travel Grant:

Travel Fellowship for training in RNA-Seq Analysis of Lungs from Transgenic Mice Expressing Human ADAM33 pro and Metalloprotease Domains – A Model for Asthmatic Airway Remodelling.

Awarded to: Joanne Kelly and H. M. Haitchi Amount: £1,653

Lay summary

In October 2015 the AAIR Charity funded a travel grant so that I could visit our collaborators at Cincinnati Children's Hospital in Ohio in the USA. The purpose of this trip was to learn, first-hand, how to process and interoperate complex data sets generated by state-of-the-art technology called next generation gene sequencing.

Using this technology the bioinformatics team at the Children's Hospital were able to analyse lung samples from our ADAM33 asthma susceptibility model and compare them with "normal" lung samples. This method generates extensive lists of genes, identifying those that are different between the two types of lung sample. This method can provide data for the expression of all 30,000+ possible genes present in the lung and therefore it requires considerable expertise to analyse them.

After 3 weeks shadowing the expert team in Cincinnati I am now able to analyse the data generated from our lung samples here in Southampton, which should shed light on the processes by which ADAM33 initiates asthma at the origin of the disease. This time in Cincinnati was an invaluable experience, which will also help me to analyse results from our future research using this novel technology, as well as aiding others in data analysis of this sort.