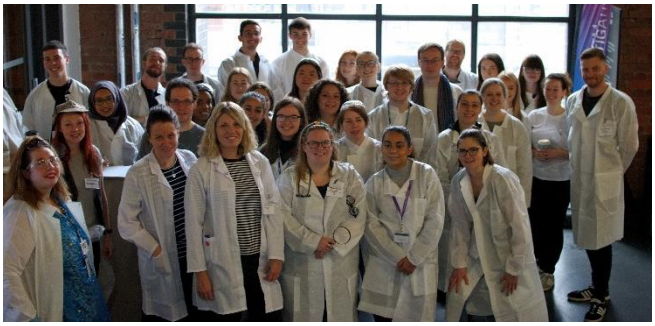
DNA Detectives at Manchester's Science and Industry Museum, 23rd October 2019

Hoping to inspire future scientists, the 'DNA Detectives' spent the day at the Science and Industry Museum as part of the October half-term *Pi: Platform for Investigation,* and gave young people a chance to unlock the secrets to their DNA and what makes each of us unique.

DNA Detectives



The DNA Detectives are a public engagement team set up by The University of Manchester's Manchester Molecular Pathology Innovation Centre (MMPathIC) and two local molecular diagnostic companies: QIAGEN and APIS Assay Technologies Ltd.

The team aims to teach members of the public about the importance of personalised medicine and how collaborations between academics, doctors and companies enable medical tests and other technologies to be developed and used in the healthcare system. These collaborations are extremely valuable because they have the potential to save the NHS money and improve the health outcomes of patients locally and further afield.

Personalised medicine (often referred to as precision or stratified medicine) is an approach for the prevention and treatment of disease that takes into account individual differences in genes, environment, and lifestyle for each person. This allows doctors and researchers to better predict which treatment or therapy will work in which groups of people.

Pi: Platform for Investigation

Pi: Platform for Investigation is the Science and Industry Museum's monthly event where families can together discover the cutting-edge research that's happening right now and how it affects our lives.

The DNA Detectives took over this event for the day and, with over 800 visitors of all ages, the event was a great success. Visitors had the opportunity to learn about personalised medicine up close and take part in eight core activities ran by the DNA Detectives, including personalised medicine Ping-Pong, a virtual reality laboratory tour, DNA extraction, and a DNA code-breaking game. If visitors took part in each activity then they were able to join us by becoming DNA Detectives themselves!

Who can wiggle their ears?

There was also plenty of interactive busking to keep visitors entertained while other activities were busy. Can you roll your tongue? Are you a *lover* or *hater* of all things Marmite? What about coriander…does it taste like bubble bath? The buskers did a great job of explaining how genetic differences make us all unique and how – like some people do not have a pleasant reaction to the bitter taste of Marmite – not all medicines are suitable for every person.

What is a biomarker and why is it so important?

A biomarker is a measurable indicator of the presence of a disease or condition and can be used to signify how well an individual will respond to a particular treatment or therapy. In this way, a biomarker acts like a highlighter. An example of a very common biomarker for diabetes is glucose. By measuring levels of this biomarker, doctors can determine whether a patient may be suffering from diabetes.

The University's Manchester Molecular Pathology Innovation Centre (MMPathIC) is working to discover new biomarkers and develop clinically usable diagnostic tests that will improve and speed up the process of diagnosing, predicting and identifying the best treatment for a particular disease.

MMPathIC
Translating Discoveries into Tests

The public: at the heart of personalised medicine

The public is the most important stakeholder in the healthcare system. Therefore, the public's trust and understanding of medical research is crucial in order to develop the healthcare system in a way that is beneficial to wider society. Ian Kavanagh, Chief Operating Officer at APIS Assay Technologies, said: "Not only does public engagement motivate and engage our staff, it's also a great way for the public to interact with science professionals and to learn more about biology and how it's involved in our everyday lives".

More generally, the team hope to inspire the next generation of future scientists. If the young people that we engage with develop a passion for Biology, or any other field of science, then we are a step closer towards our goal!

To find out more about the DNA Detectives and their associated organisations, please contact: mmpathic@manchester.ac.uk