

Babraham Institute School's Day 2015

Organised by Michael Hinton.

Now in its twentieth year, the Babraham Institute Schools' Day, held on 4 March, has become a real campus-wide event. As well as 22 lab-based projects run by Institute scientists, there were science projects from Definigen and Crescendo Biologics, two companies on the Babraham Research Campus who work collaboratively with the Institute.

Schools' Day allows Babraham Institute and campus company researchers to convey the excitement and impact of their research and to provide students with a real-life view of cutting-edge science using modern techniques and equipment. Over 100 secondary and sixth-form students from 13 local and not-so-local schools took part in two lab-based projects during the course of the day (from a selection of 24 available projects), while their teachers learned about the cutting-edge technology offered by the Institute's nine scientific facilities.

Group Leaders, PhD students and postdocs from most of the Institute science groups ran the lab-based projects and a Scientific Outreach Grant from the Biochemical Society complemented financial support from Babraham Bioscience Technologies.

Martin Baker, a PhD student in Dr Heidi Welch's group, writes:

Once a year the academic corridors and research labs of the Babraham Institute undergo a rather unusual transformation. The scientists are swamped with 16-18 year olds from local schools, keen to try their hands at research and show the academics how science should be done. The students become the newest recruits for each lab hosting a project; joining us as researchers to try out the techniques and equipment we use on a daily basis.

There are over 100 students visiting the institute, from 13 schools in the Cambridgeshire area. The students then work in small groups on two different projects over the course of the day. There is a wide variety of projects on offer for the students, from extracting and purifying DNA or protein to bioinformatics analysis of sequencing data, giving the students a comprehensive view of what life science research looks like in 2015.

In our lab, which is part of the Institute's Signalling programme, we isolated epithelial cells from the inside of our cheeks, stained the nuclei and granules, and examined them using a microscope. The students were then able to look at their own cells, a first-time experience for many of them which was evident from their excitement.

In addition to this we extracted DNA from these cells and performed PCR reactions to check for the presence of an ALU repeat in the tissue plasminogen activator gene of each student. Throughout the project each step was explained as clearly as possible, as the day was not only about letting the students experience what it's like to work in a lab but also to increase their understanding of what we do and how we do it.

Hopefully at the end of the day the students have a better understanding of what it means to be a scientist, as well as the techniques we use to probe the workings of life at the microscopic level. But our main priority is to ignite a passion for science in them, a passion that for many scientists started with something as simple as looking down a microscope and seeing cells for the first time, maybe even your own cells!

Feedback is always requested from students, teachers and scientists so that we can continue to improve the event for all concerned. This year one teacher specifically welcomed projects relating to

epigenetics, signalling pathways and gene activation because they are being introduced into the A Level curriculum. Student comments included:

“I enjoyed the opportunity to see different careers evolving from the A Levels I take”

“The most interesting aspect was the wide applications of the science being done in each project”

“I was expecting older, male, scientists but there is a mixture of different ages and nationalities”

“I liked that the people who led the projects were PhD students as they can relate to what we’re doing at school”

“I liked using and looking at how to use equipment I don’t normally have”

“I enjoyed meeting scientists who were happy to talk about their work”

In addition to learning more about life in a lab, the visiting students also participated in a new style panel-based careers session with Institute PhD students, Institute staff working in knowledge exchange and commercialisation and representatives from the campus company F-Star.

