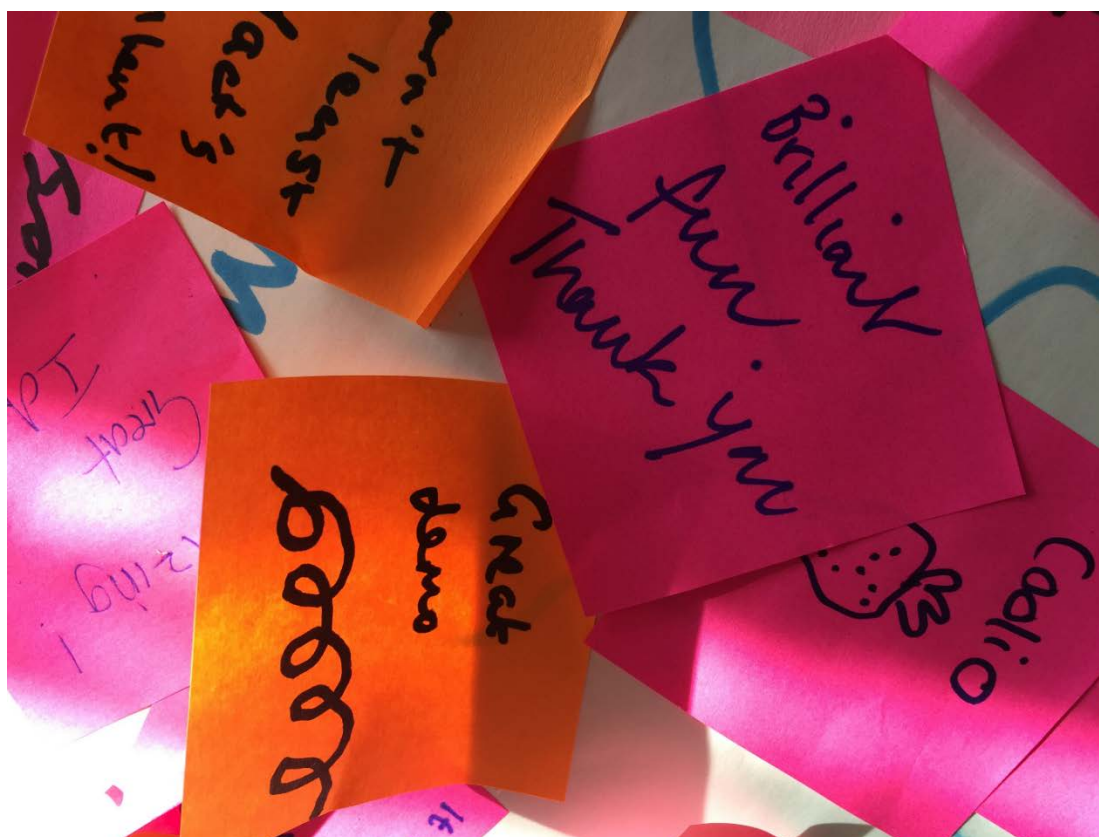




## DNA detectives- A report for the Biochemical Society



Bright Sparks weekend at the Brighton Science Festival 2015

Dr Kay Osborn - Recipient of an outreach grant from the Biochemical Society.

The date may have been 14<sup>th</sup> February, the alcohol chilled and strawberries ready for serving, but this was no Valentine's Day treat. It was...DNA DETECTIVES!

21 staff and students, headed by Professor Alison Sinclair from the Biochemistry and Biomedicine Department at the University of Sussex, were out to give a little insight into the workings of the DNA code to the public.

We ran a workshop as part of the two week Brighton Science festival and aimed to communicate one aspect of science that we found fascinating, hoping that others would agree and marvel, as we do, at how nature could be so clever.

The Brighton Science festival has been running for 10 years; the organisers describe it as targeting anybody who has asked the question; 'where we are from, where we are now and where are we going?' They have particularly identified 12-14 year olds as a group that have lost enthusiasm for science, and the science curriculum does not seem to be addressing this problem. The Brighton sparks weekend is for 7-14 year olds and contains a wide range of activities, from creepy crawlies and chemistry to maths and bridge building there is something for everyone. Crucially, the weekend is aimed for parents and children to share the experience together.



We had participated in the previous year's event and trialled a model for demonstrating how RNA codes for protein. This year we explained this ingenious process, where three base sequences code for amino acids in proteins, using the idea of detectives and code breaking.

The event started at 10am and right from the off we were busy. To control the flow of people the room was split into three sections. The first was an introductory table, where we discussed what people knew about DNA and reinforced some basic information, encouraging answers from the group as much as possible. Next, children wearing disposable lab coats participated in a practical demonstration of ideas discussed at the table about how DNA is found in all living things. DNA from strawberries was extracted using household items such as salt, washing up liquid and rubbing alcohol. There was genuine excitement and wonder as the children saw white threads forming in their test tubes and then hooked out the gloop of DNA and placed it in a small Eppendorf tube to take home. The children then moved onto a third station where we guided people through a demonstration of how the DNA we had just extracted could make proteins via RNA.



This last part of our workshop involved the production of a model developed by a talented post doc Dr David Wood with a very sharp craft knife and some Blue Peter style materials. Building on ideas from the previous year's festival, we used money from the Biochemical Society to refine this model and print posters that would provide clear and basic information about the process.







We knew our lecturers were great communicators but what was more difficult for us was realising what level of understanding our audience was bringing to the workshop. Staff and students involved in presenting thought hard about the clearest way to present this information using our posters. Because our model involved participants acting as human ribosomes to assemble chains of amino acids, careful thought was also necessary into how to guide the children through the demonstration.



The event, as well as benefiting children and parents, also gave less experienced members of the department a chance to observe lecturers presenting information and try out their own communication skills in a relatively undemanding atmosphere.

