

Creating a Colourful Life

The Creating a Colourful Life project is an EPSRC funded partnership for public engagement award. The project aims to raise the profile of pigment science, and of chemistry at universities. The work is co-ordinated by two academics, Dr Sandra Dann from Loughborough University and Prof. Mark Weller from University of Southampton. Currently a full time science communicator, Russell Mayes, is working on the project at Loughborough.



We have organised numerous science meets art type events. The events typically involve a wide range of short, hands on, experiments. The experiments which we have found to be most popular are

1. Making paints from pigments and binder. The paints are classed into 3 different ages; ancient, modern and futuristic. The paints are then used to paint a massive mural drawn by our artist, Paul Gent.
2. Making paints from chemicals. Three simple titration reactions result in 3 different coloured pigments. These are dried and then used to make paint.
3. A mini crime scene investigation experiment. 2 different black inks from pens are separated by chromatography and compared to an envelope ransom note.
4. Security markings on 20 banknotes from all over the world are investigated under a microscope and under UV light. A passport and driving license are also tested.
5. Mug painting. A range of UV, glow in the dark and thermochromic paints are used to paint a mug.
6. Invisible inks are made from materials available in a kitchen.
7. Food colouring e-numbers are investigated using chromatography to demonstrate colour mixing.

These events have been held in the Chemistry labs at Loughborough and Southampton. We have also attended Wrexham science fair and Cheltenham science festival. At the science fairs we do a scaled down version of the above - dependent on space. In addition we also have numerous poster boards set up, which give further background and context to the science being undertaken.



A team of demonstrators attend all the events to create a fun, friendly and safe atmosphere. We have catered for audiences between 2 - 84 years of age, as well as for people with university education to no previous science experience. The activities are designed to work on a range of levels, and the demonstrators are able to recognise and communicate ideas effectively.

Along with all these activities a short 20 minute lecture has also been designed by Dr. Dann. This lecture explores the use of colour in everyday life, and where ancient

pigments were obtained from. It also examines how modern pigments such as photochromics and thermochromics are used. The lecture is interactive, and a range of demonstrations are used throughout.

In addition to these events an interactive display has been created demonstrating current pigment science undertaken in the Loughborough and Southampton laboratories. This display is due to be donated to Snibston science park.

Here are a number of quotes from people who attended the events, along with photos



“I, my wife, and children had a super day, and learnt loads. There was always something interesting to do and to listen to. We learnt the difference between a dye and a pigment, introduced the children to chromatography, titrations, how colour was developed through the ages, different type of solvent (including ear wax!) and came away with several souvenirs.”

“An excellent day, student guides were brilliant – difficult to improve!”

“I would like to say thank you for a lovely day on Friday. We had a family of 6 attending, from Grannie in her 70s to my youngest Evie who is 5, an all - even the hard to please teenagers - had a great time. Our guides were brilliant.”



“It was very enjoyable. It was nice to learn and encourage science with my children. Thanks.”

“I thought it was brilliant! Well done! And thank you for my enjoyable day.”

