

Unzipping your genetic potential

Bring the study of DNA to life at KS3, 4 and 5



Friday 4th March 2016
Wellcome Collection, London

Discover advances in DNA technology that span the breadth of the Biology curriculum and will develop your pupils' scientific skills

- Investigate the structure and functions of DNA, and model the results of mitoses and meiosis
- Experience practicals that showcase the structure of DNA, including DNA fingerprinting, and gel electrophoresis
- Explore ideas for differentiation that will make the topic accessible and challenging for all students
- Take away resources that can be used immediately in your own classroom

Sessions include:

Bacterial genomics: Single genomes to global population

Professor Nicholas Thomson, Wellcome Trust
Sanger Institute

Genomes, health and society

Francesca Gale, Wellcome Trust Sanger
Institute

Teacher-led workshops:

Unzipping your genetic potential

*The Human Genome Project: What did it ever
do for me?*

This day is for you if:

- You teach Science at KS3, 4 or 5
- You want innovative ideas to re-invigorate your approach to DNA
- You'd like to update your knowledge of cutting-edge research around this central molecule
- You'd like to gain confidence in applying your understanding of DNA across the Biology curriculum

Prices:

1st place £195 (Schools Programme members £145)
£75 for further places from the same department

Enquiries:

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Professor Nicholas Thomson, Wellcome Trust Sanger Institute: *Bacterial genomics: Single genomes to global population*



Whole genome sequencing has given us unprecedented insights into the genomic architecture and evolution of important bacterial pathogens. In these last years bacterial comparative genomics has come of age and has been used to show an increasingly varied number of strategies that have been employed by organisms during their evolution. This presentation will look at how comparative genomics has increased our understanding of pathogen biology, both at the single genome and population level.

Nick is a microbiologist and bioinformatician whose interests lie in sexually transmitted and diarrheal diseases.

Francesca Gale, Wellcome Trust Sanger Institute: *Genomes, health and society*



Since the publication of the first human genome in 2003, genome sequencing technology has significantly advanced. It is now quicker and cheaper than ever before to sequence a genome. This presentation will discuss how changes in sequencing technology have revolutionised genome research and what impact this can have on health care, from targeted drug therapies to stopping MRSA outbreaks in hospitals. It will also introduce a range of free online resources to support your teaching of genomics in the classroom.

In her role as Education Officer at the Sanger Institute, Francesca has developed several educational resources targeted to the Biology curriculum for 14-19 year old students, which are available online.

Teacher Leader

Our days are led by practising teachers, ensuring their relevance to you

This day will be led by Victoria Geddes. Victoria is an AST at King Edward VI Sheldon Heath Academy in Birmingham, with a focus on improving teaching and learning across the school. She studied Biological Science with an emphasis on genetics at the University of Warwick, and spent time in India mapping the spread of polio genetically.

"I believe genetics taught well is the most fascinating branch of biology but it is also potentially the most confusing – this day will support you to explore the real life relevance of this fascinating molecule."

Also coming up for Science teachers

Transition metals: Colourful chemistry

Monday 7th March 2016, Royal Society of Chemistry, London

Space for KS4-5

Monday 14th March 2016, Rutherford Appleton Lab, Oxfordshire

Modelling scientific understanding

Summer term 2016, London

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