

CEB Discoveries

11.00AM – 2.00PM Saturday 23 March

Come and see energy-producing bacteria, check the quality of your drinks using NMR, learn how computers are transforming the way we think about chemistry, learn how sensors are designed and if you always wanted to do some chemical experiments, we have some for you to try.

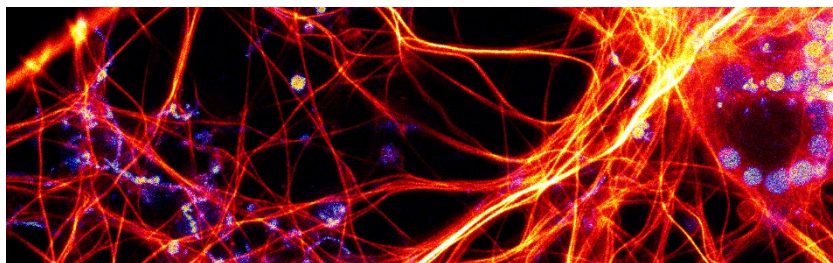
Chat to our selected team of researchers during 'Science Speed Dating' and learn about the 'Molecules that Changed the World'.

If you just want to play, join our 'Explore the Gut Microbiome' workshop or do some colouring while sipping coffee and eating cake in our social area, the Atrium.

Get to be a scientist and engineer for the day whilst learning about CEB discoveries: cool molecules, reactions, structures, sensors, bacteria... CEB is your oyster!



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Level 1

Kids' Zone

A whole range of engaging and fun activities for kids

- 'Gut feeling' workshop
- Crafts and colouring
- Sensor game
- Puzzle mat
- Be a scientist and engineer for the day

'Discovery' stalls

Discover the world of sensors: how are sensors made, the future of sensors in medicine, how we study the tiniest parts of the cells. Talk to Sensor Doctoral Training students and our in-house experts. Learn about the gut and why is it so important to understand what are how are we eating:

- Glucose sensors
- Measure your pulse
- Food testing
- 3D model of the heart
- How do lava lamps work?



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Level 2

Science speed-dating

Come and talk to our mix of scientists from different disciplines. Find out about different science topics their work, research, and background. Our experts will answer any science question you may have.... or just say 'that is an interesting question!'

'Molecules that Changed the World'

Come and learn about the 'Molecules that Changed the World'. You might think that there is nothing much to say about ammonia, or that caffeine is just one of those things you have in the morning, and that B12 is just an ordinary vitamin, but all of these molecules have an amazing story, which would make a pretty interesting movie! Not only have they made a huge impact on science, but they have also transformed society and in many ways, changed the course of civilisation. We have selected 25 of them and would like to take you on a journey of interesting discoveries.



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Talks

Lecture Theatre 1

Anthie Moysidou: MicrobiHOME

11:30–12:00 and 12:40–13:10

The microbiome and in particular, the gut microbiome, has become one of the most burgeoning fields of research. Several conditions from obesity to depression and from autism to chronic inflammatory disorders have been linked with the microbes residing in our guts. Join us for an insightful talk to discover why our microbes could be the key to our health.

Dr Katherine Smart: Buds, Botanicals & Bubbles

12:05–12:35 and 13:15–13:45

One of the oldest biotechnology applications harnessed by humans is the conversion of cereals and fruits to alcoholic beverages. Brewing is an intriguing combination of art, engineering and science. Brewers are seldom given credit for their contributions to novel scientific discovery, despite an enviable heritage in this regard. Dr Smart will discuss the impact of brewers on some of the most important scientific discoveries and will explore the history and science of gin and constituent botanicals.



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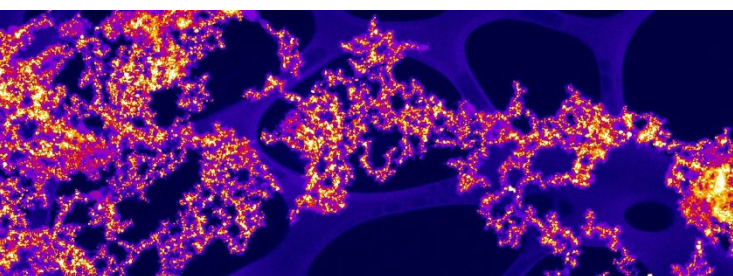
Level 3

DNA and nanomaterials

Learn about nanotechnology now and designer materials for the future: how we make them and how they can be used.

Forensic Nuclear Magnetic Resonance, 'discover chemistry' experiments and energy producing bacteria

Hands-on enzyme driven reactions, light harvesting bacteria, NMR forensics, and the history of molecular engineering for catalysis and nanomedicine.



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Talks

Lecture Theatre 2

Vasileios Mappas: Designing molecules using computers

11:30–12:00 and 12:40–13:10

One of the greatest challenges in chemistry is to discover substances that fulfil desirable criteria and properties, such as environmentally friendly, non-toxic solvents and refrigerants. Similarly, and very importantly, in medicine we want to find highly specific drugs that can treat challenging illnesses more effectively. In modern times this substance discovery task is more often carried out by computers using advanced theoretical models. This presentation aims to highlight, in simple terms, how this molecular design task is carried out at present, and to highlight future developments that will enable significant advancements in this area.

Dr Eric Rees: Danger of the Talking Head

12:05–12:35 and 13:15–13:45

A talk on the curious ways science fiction has intersected with current technology, and what we might expect in the future.

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