

# IMPERIAL AND WHITE CITY

Our newsletter for the local community  
Issue 7, 2019



Imperial College  
London

## **In this issue:**

- // Take a look inside the new research home of our Department of Chemistry
- // Explore the extraordinary at the Great Exhibition Road Festival
- // Competition: can you identify our mystery location?

Our new cafe in the Interaction Zone at The Invention Rooms is open from 9.00–16.00, Monday to Friday.



# Hello!

Welcome to the seventh issue of Imperial College London's community newsletter for local residents, businesses and organisations in and around White City.



Dear friends,

In this issue of our newsletter, we're taking a look inside the Molecular Sciences Research Hub – the newest building to open on our campus in White City. The Hub is the new research home of our Department of Chemistry and is at the forefront of work to address some of the biggest challenges we face today in areas like energy, healthcare and sustainability.

We've also reached a major milestone at The Invention Rooms. In December, we opened the Interaction Zone – a community café, garden and event space that is open to everyone in the community and completes The Invention Rooms. Pop inside to have a cup of coffee or attend one of our free science and technology themed events and activities.

We've already held some fantastic events at the Interaction Zone, including a very special live-screening of the Royal Institution's famous Christmas Lectures – a first in the Lectures' 184-year history! We have lots more activities coming up in the next few months, including our next Maker Challenge programme and our tech-drop in sessions, What the Tech?!

We look forward to seeing you soon,

Professor Maggie Dallman  
Vice-President (International) and  
Associate Provost (Academic Partnerships)

## News from Imperial

### Taming wildfire

A new research centre led by Imperial will look at the factors that cause wildfires to break out and spread. Recent fires have devastated large areas in Europe and the US, destroying homes, reducing air quality and causing loss of life. The centre will produce guidance to improve the prediction and management of fires around the world.



### Mission to Mars

Imperial engineers working on a NASA mission have contributed to the design of a device that can detect tremors below the surface of Mars. The mission, which landed on Mars in November, will help scientists learn about the planet's interior and could reveal more about the chances of life on Mars billions of years ago.



### Eat your greens

Research by Imperial and the University of Bristol has found that a diet rich in vegetables and fish can lower the risk of developing high blood pressure during pregnancy. The researchers also found that a typical Western diet – high in potatoes, white bread and meat – could increase the risk by almost 20%.



[www.imperial.ac.uk/news](http://www.imperial.ac.uk/news)

It's been a busy few months here in The Invention Rooms. Back in December, we held our latest **Maker Challenge** finale and earlier this year, we launched the **Imperial Community Science Seed Fund**, which will help members of the community set up exciting new science projects and inspire more people to get involved in science and technology.



Local residents got creative with Christmas-themed making sessions in our new Interaction Zone.



BSc Global Health students shared insights about their placements with local community groups.

# What we've been up to in the local community



And tried out some experiments.



Our Maker Challenge participants presented some incredible prototypes.

We joined a live stream of the Royal Institution's Christmas Lecture.

# Events and activities

## Get involved

### What the Tech?!

Bring your phone, tablet or laptop to our free weekly gadget workshop for elderly residents living in the local area.

**When:** 14.00 on Wednesdays and Thursdays

**Where:** Edward Woods Community Centre (Wednesdays) and The Invention Rooms (Thursdays)

### White City Campus tours

Join us for a free walking tour of the White City Campus to explore some of our new facilities and learn more about our work.

**When:** Last Friday of every month at 14.00

**Location:** White City Campus

### The Maker Challenge Programme

Create, build and bring your ideas to life! Free programme for young people aged 14–18 who want to learn new tech skills and innovate.

**When:** Tuesdays after school

**Where:** The Invention Rooms

To sign up for any of these activities, visit our website or drop us a line:

[www.imperial.ac.uk/](http://www.imperial.ac.uk/)

[white-city-campus/community](mailto:white-city-campus/community)

E: [whitecity.community@imperial.ac.uk](mailto:whitecity.community@imperial.ac.uk)

T: 020 7594 1103



IMAGINE  
MAKE  
LAUGH  
DISCOVER  
CURIOSITY

THE GREAT **2019**  
EXHIBITION  
ROAD FESTIVAL

EXPLORE THE  
EXTRAORDINARY

EXHIBITION ROAD, SOUTH KENSINGTON  
SATURDAY 29 AND SUNDAY 30 JUNE  
11.00–17.00

Join us for a weekend of curiosity, discovery and exploration.

From nature to space, music to design we're inviting you to Exhibition Road for a festival that fuses the arts and sciences through interactive workshops, talks and performances, tours, a family area and a street food market.

We invite you to explore the extraordinary. Won't you join us?

[GREATEXHIBITIONROADFESTIVAL.CO.UK](http://GREATEXHIBITIONROADFESTIVAL.CO.UK)

#EXRDFEST

Competition:  
win an Imperial  
reusable  
coffee cup



Question:  
Can you  
name this  
location?



Send your answer to:  
[whitecity.community@imperial.ac.uk](mailto:whitecity.community@imperial.ac.uk)  
by Monday 29 April

Correct answers will be entered into a prize draw to win a Imperial reusable coffee cup, notepad and pen.

Well done to our last winner, Liz Clark, who spotted that the location in the photo was the BBC Media Village in White City Place.

# We've got Chemistry

In October 2018, the Molecular Sciences Research Hub opened at the White City Campus. Over 800 scientists, engineers and clinicians are based at the Hub, where they work together to solve some of the world's biggest challenges, like food security and energy sustainability.

Grab a lab coat and safety glasses, and let's have a look at what's going on inside.

## What are molecular sciences?

Molecules make up everything around us. They can vary in size from simple pairs of atoms, like an oxygen molecule, to complex structures. You can find molecules in things like stars, water, plants and your own body. Scientists study molecular materials, structures and systems to learn more about how molecules work and how they could be used to find solutions to problems facing people around the world.



The Centre for Rapid Online Analysis of Reactions – ROAR for short – is a new centre where scientists study reactions between chemicals. It's part of Dial-a-Molecule, a project that aims to make the synthesis – the reaction between two substances to create a new substance – of any molecule as easy as dialling a phone number. Currently, finding the right way to synthesise new molecules can take a long time, sometimes years. ROAR uses robots to automate and record the process, helping to speed things up and providing lots of information to help scientists repeat reactions more easily in future.



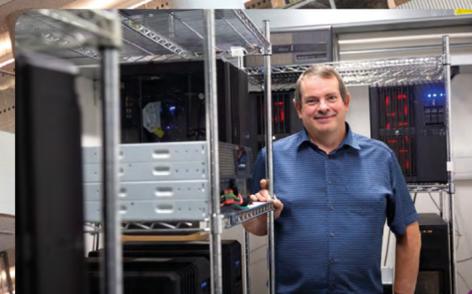
Dr Andreas Kafizas is a lecturer in climate change and the environment at Imperial. His research focuses on creating new light-activated coatings that react with sunlight to produce useful chemical reactions, including a coating that can be applied to the walls of a building to help purify polluted air.



Louise, an undergraduate student from the Department of Chemistry, is working on her fourth-year research project in the Molecular Sciences Research Hub. She's using a device called a spectrometer – an instrument that can provide detailed information about the molecules in a substance.



Master's student Ana is working on a project studying ionic liquids – salts that are liquid at room temperature and can dissolve almost anything. Ionic liquids could provide a greener and safer alternative to solvents – like nail varnish remover – which are often dangerous for our health and the environment. Applications for ionic liquids could include methods for recycling textiles or new ways to produce biofuels.



Professor Ian Gould develops computer simulation methods that can help scientists to understand how biological systems work. He's part of a group of scientists in Imperial's Department of Chemistry who are working on new molecular tools and techniques to improve healthcare and support the discovery of new drugs and treatments.

## Chemistry around you

Chemistry isn't all about Bunsen burners and test tubes. Here are a just a few examples of chemistry you can find in your everyday life.

### Smart phones

Did you know that your smartphone contains metals like copper, gold, platinum and silver? Out of 83 stable elements in the periodic table, you can find at least 70 in an average smartphone. Some of the elements used in your phone are rare-earth metals, like praseodymium, neodymium and terbium. These elements make your phone's microphone, speakers, and vibration function work, and produce the vivid colours in its screen.



### Baking power

When you're baking your next batch of cakes, you'll probably add a teaspoon of baking powder to help them rise. Baking powder is made from a chemical called sodium bicarbonate and other weak acid salts, such as cream of tartar. Mixing baking powder into a wet cake dough releases an acid that reacts with sodium bicarbonate and creates bubbles of carbon dioxide. As these bubbles rise, they expand existing pockets of air in your cake mix and produce a light and delicious sponge. Yum!



### Marvellous mauveine

If you were getting dressed in the 1850s, your clothes would probably have been brown or beige. Back then, fabric dyes were very expensive and were made from natural ingredients, like flowers, roots and insects. In 1856 William Perkin, a student at the Royal College of Chemistry – which is now part of Imperial – created the first synthetic organic chemical dye, mauveine, after noticing that a purple solution left over after an experiment was very good at staining silk. His new dye sparked a worldwide fashion for purple and led to the development of the synthetic dye industry and the colourful clothes that we have today.



## Explore more of the Molecular Sciences Research Hub

Join us on a free campus walking tour and go behind the scenes to learn more about the newest addition to our campus.

Book your place on our website  
[www.imperial.ac.uk/white-city-campus/community/opportunities-to-get-involved/campus-tour](http://www.imperial.ac.uk/white-city-campus/community/opportunities-to-get-involved/campus-tour)

## Would you like this in another language?

Jes li chcesz otrzymywac ten biuletyn w je. z. polskim, skontaktuj sie z nami pod adresem:  
**whitecity.community@imperial.ac.uk**

Haddii aad jeclaan laheyd nooca warqada aqbaartaan af Soomaali fadlan naga soo wac:  
**whitecity.community@imperial.ac.uk**

إذا كنت تريد الحصول على نسخة من الرسائل الإخبارية باللغة العربية يُرجى الاتصال ب:  
**whitecity.community@imperial.ac.uk**

Pour recevoir une version de ce bulletin d'information en français, veuillez nous contacter sur:  
**whitecity.community@imperial.ac.uk**

Se desejar receber uma versão desta newsletter em português, por favor contacte-nos:  
**whitecity.community@imperial.ac.uk**

Si necesita una versión en español de este boletín informativo, póngase en contacto con nosotros en:  
**whitecity.community@imperial.ac.uk**

## Get in touch

We welcome your ideas and suggestions about this newsletter or anything Imperial College London is doing in White City. You can contact Priya or Tom from our dedicated Community Engagement Team who can answer your queries or arrange a meeting.



**whitecity.community@imperial.ac.uk**



**020 7594 1103**

**[www.imperial.ac.uk/white-city-campus/community](http://www.imperial.ac.uk/white-city-campus/community)**



Tom Pearson and Priya Pallan