

COMMUNITY

Discovery Day: coming face-to-face with life changing science

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ABOUT THE CRICK

The Francis Crick Institute is a new medical research institute in Somers Town.

It's named after one of the UK's greatest scientists, who co-discovered the structure of DNA.

The institute is a partnership between the Medical Research Council, Cancer Research UK, Wellcome, UCL (University College London), Imperial College London and King's College London.

Discoveries made in the laboratories will speed up the development of treatments for major diseases such as cancer, heart disease and stroke.

The Francis Crick Institute is bringing new jobs, community facilities and other benefits to Somers Town.



Above: Getting creative with a handmade fluorescent kaleidoscope inspired by some of the incredible microscopy images taken at the Crick © The Francis Crick Institute

What do fluorescent kaleidoscopes, twitching arm muscles and cell cookies have in common? They're just some of the weird and wonderful activities that visitors had the chance to try at the Crick's first Discovery Day on Saturday 17 June.

On one of the hottest days of the year, more than 1,000 visitors were welcomed inside the Crick to meet our scientists, hear talks, and take part in demonstrations and hands-on activities.

As well as taking more than 250 members of the public on building tours throughout the day, visitors tried their hand at being a scientist - from spotting fruit fly mutants, to using scanning electron microscopes to identify malaria parasites. The bravest visitors also investigated whether a friend could make their arm twitch using nothing but the power of the brain and a couple of electrodes.

A host of Crick scientists were also on hand to cast light on the research they do; Crick PhD student Sarah McCallum wowed crowds with the world of the

'second brain', the nervous system in your gut, and Dr Samra Turalijc led an audience through the evolution of cancers and why this is a huge problem for treating the disease.

If you're interested in coming to the next Discovery Day in spring 2018, or hearing more about our programme of live events you can sign up to our mailing list by contacting engage@crick.ac.uk

OPEN HOUSE FESTIVAL 2017 - ANOTHER CHANCE TO EXPLORE THE CRICK

Sad you missed the chance for a tour? Don't worry. Come and explore during the Open House Festival on Saturday 16 September 2017, when we and the architects who designed the institute (from PLP and HOK) will be giving tours and talks about the architecture of the Crick.

All tours and talks are free, see www.openhouselondon.org.uk for details and to book

Cracking Crick science show



At the Cracking Crick science show, world-class food adventurer and science enthusiast Stefan Gates explored everything from why custard becomes runny when you add saliva, to how and why gas produced during digestion exits the body (yes, farting I'm afraid!).

More than 1,200 students between 11 and 14 years old were treated to this free science show, the Crick's first schools event in the auditorium. The fun and often explosive style of the show really caught the imagination of the audience – "it was EPIC", said one of the students.

Above: Science show presenter Stefan Gates in action
© Maria Ocampo-Hafalla

WANT TO KICK START A LOCAL PROJECT?

...then take a look at our Community Chest scheme. We provide grants of up to £3,000 to local community organisations and groups for projects that help improve health and wellbeing in the local area.

The deadline for applications for the next round of funding is Monday 4 September 2017. For more information or to request an application form, please call us on 020 3796 2847, or email info@crick.ac.uk.

The Crick's Community Chest is supported by the Rangoonwala Foundation.

FOLLOW US ON



For news about the Francis Crick Institute follow @thecrick.

King's Cross Story Palace

The King's Cross Story Palace is a community-led project which will share the untold history of the past 100 years in King's Cross. From one-to-one encounters, small and large groups and one-off events the King's Cross Story Palace will bring people together to tell their stories.

The stories will feature online at historypin.org and in exhibitions, walks, maps and events. There are lots of ways to get involved with the project; gaining transferable skills as a volunteer, telling your story and meeting new people in the process and much more.

To learn more and contact King's Cross Story Palace team, visit www.storypalace.org or call on 020 7608 0775.

Above: Connie at an event at St Pancras Community Association
© King's Cross Story Palace



Living Centre update: Somers Town Job Hub

The Somers Town Job Hub is now happily settled into its new home in the Living Centre, and is making the most of the extra space and resources. In addition to the Hub's core provision of one-to-one advice, training and job search support, and programme of employability workshops, it is also hosting employer information events, with organisations such as Skansa, Costain and the Crick (of course!). They'll soon be extending their support for job-ready clients who need an intensive boost of confidence for interviews – more details to be announced soon.

You can contact Julia on 020 7388 6088 or Joned on 07795 605172, or you can email jobhub@somerstown.org.uk

Fancy some sun and greenery?

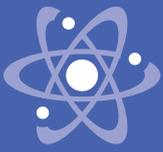
...then join Joe and the London Wildlife Trust at their monthly community gardening group to care for the wildlife garden on the corner of Ossulston Street and Brill Place. If you're interested in getting involved just turn up at one of these sessions

below, or call 020 3796 3147 for more information.

Upcoming gardening sessions for weeding, deadheading and chatting:

- Wed 9th August, 10:30am-12:30pm
- Wed 6th September, 10:30am-12:30pm





Crick scientists find new way to fight malaria

Malaria is a preventable disease but it still killed almost half a million people in 2015, most of whom were children living in Africa who were not yet five years old. Almost half the world's population is at risk of being bitten by a mosquito that could pass on the parasites that cause malaria. The disease causes terrible suffering and imposes an immense economic burden on much of the developing world. There is no malaria vaccine, and resistance against mainstay antimalarial drugs is widespread, which means they no longer work. Scientist Professor Mike Blackman's research team at the Crick is looking for new ways to treat and control this devastating disease.

For Blackman's team, finding ways to stop malaria begins with understanding exactly what the parasite does once it is in a human body. They already know that malaria parasites infect human red blood cells and make copies of themselves inside them. The infected blood cell eventually bursts releasing a fresh wave of parasites that rapidly invade other red blood cells.

In their most recent work Blackman's team have discovered a new way to slow down malaria infection by interrupting the parasite's escape from infected red blood cells. The team are already working with pharmaceutical companies to use this knowledge to develop new drugs to treat malaria – an important step in the battle against drug resistant malaria.

When malaria parasites invade red blood cells, they form an internal compartment, replicate many times inside it then burst out of the cell to infect more. In actually getting out of the red blood cells, the parasites have to break through both the internal compartment and the red blood cell membrane using various proteins and enzymes.

Scientists from Blackman's lab at the Francis Crick Institute, together with colleagues at The London School of Hygiene & Tropical Medicine, have identified a protein called SERA5 crucial to the process. When SERA5 is disrupted, it makes it harder for the malaria parasite to escape from the cell and so slows down the overall rate of infection.

"The parasite sits in its internal compartment inside the cell, surrounded by lots of proteins, a bit like a baby in a womb surrounded by amniotic fluid" says Blackman. "We focused on the most common protein, known as SERA5, assuming that it probably has an important role since there is so much of it."

The team used genetic tools to take away the gene responsible for producing SERA5 in malaria parasites and then watched the cells with time-lapse video under



Above: Professor Mike Blackman's research team is looking for new ways to tackle malaria © The Francis Crick Institute.

a microscope to see what happened.

They found that the parasites broke through the membranes faster than normal but many got stuck on their way out, meaning that they were less likely to be able to invade other red blood cells.

"Malaria parasites don't survive for long outside red blood cells, so if they get stuck on their way out, they might die before they have a chance to infect another cell," says fellow scientist Dr Christine Collins who led much of the research. "We found that parasites lacking SERA5 were about half as efficient as normal parasites at escaping and infecting new cells."

The team are now working with GSK to see if SERA5, or one of the enzymes that it controls, could be a potential target for a new malaria treatment.

"Drug resistant malaria is a huge problem, so there is a real push to develop new drugs that work in a different way," says Blackman. "None of the current antimalarials work by preventing the parasites from escaping red blood cells, so we think that the proteins and enzymes that help the parasites break free could be valuable new targets that we can design drugs for."

The paper '*The Plasmodium falciparum pseudoprotease SERA5 regulates the kinetics and efficiency of malaria parasite egress from host erythrocytes*' is published in PLOS Pathogens.

Cancer Research UK, the Medical Research Council and Wellcome all contributed to fund the team's research.

<http://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1006453>

It only takes one bite from a mosquito carrying the malaria parasite for a person to catch malaria. If you plan to travel abroad always check what you can do to protect your health while you are away. The NHS Choices website provides useful information about malaria and how you can prevent infection.

www.nhs.uk/Conditions/Malaria

WHAT'S ON?

There's lots going on; exhibitions and events for adults, young people and families. You'll find details on our website www.crick.ac.uk/events. You can also join our mailing list – email events@crick.ac.uk, or call 020 379 62847 for further information.

GALLERY AND CAFÉ OPENING TIMES:

WEDNESDAY 10am-8pm

THURSDAY 10am-3pm

FRIDAY 10am-5pm

SATURDAY 10am-5pm

(café opening times are 10am-3pm)

From time to time the gallery is closed for private events, so please check the website before coming.

GET IN TOUCH

If you have any questions, please contact us.

Email: info@crick.ac.uk

Web: www.crick.ac.uk

Phone: 020 379 60000

Facebook: [facebook.com/theFrancisCrickInstitute](https://www.facebook.com/theFrancisCrickInstitute)

Twitter: @thecrick

Post: The Francis Crick Institute
1 Midland Road, London,
NW1 1AT

This newsletter tells you about the Francis Crick Institute. If you would like a copy in Bengali, please send your name and address to info@crick.ac.uk.

এই সংবাদপত্রিকাটি আপনাদের দ্য ফ্রান্সিস ক্রিক ইন্সটিটিউট এবং ব্রিল প্লেস, সমারস টাউনে তাদের দ্বারা একটি মেডিক্যাল গবেষণা কেন্দ্র তৈরি করার পরিকল্পনার বিষয়ে আপনাকে জানায়। যদি আপনি বাংলায় একটি অনুলিপি চান, অনুগ্রহ করে ঠিকানায় বা info@crick.ac.uk-তে ইমেইল করে আপনার নাম আর ঠিকানা পাঠান।

MEET A SCIENTIST

FREE

Weekly, please check the website for details

The Manby Gallery and Café (ground floor of the Francis Crick Institute)

Crick scientists pop down to the Manby Gallery from their labs to chat to visitors about their work. Ask them about what life in the lab is like and get hands-on with old-fashioned microscopes, as well as the modern day versions they now use.

ART-SCIENCE WORKSHOPS: ZOETOPES OF DISCOVERY...

FREE

Free, places are limited and must be booked in advance via Eventbrite

<https://www.eventbrite.co.uk/e/zoetopes-of-discovery-art-science-workshops-tickets-35755254930>

Come along and make your very own zoetrope – a clever device that uses an optical illusion to transform still images into a moving animation.

Pick a date and book your place:

- Thursday 3 August, 2-3:30pm
- Thursday 31 August, 2-3:30pm
- Saturday 9 September, 2-3:30pm
- Wednesday 4 October, 6:30-8pm

Led by award-winning Medical Artist Merlin Strangeway with the support of Crick researchers, the workshops are free and open to adults and families.

We recommend the workshops are suitable for children aged 6 and over.

OPEN HOUSE

FREE

Saturday 16 September

For details see www.openhouselondon.org.uk for details

Did you miss the chance for a look inside the Crick on our Discovery Day?

Then come and explore during the Open House festival in September, when we and the architects who designed the institute will be giving tours and talks about the architecture of the Crick.

OPEN FOR DISCOVERY: COME AND EXPLORE OUR EXHIBITION...

FREE

20 April – 28 October 2017

The Manby Gallery and Café (ground floor of the Francis Crick Institute)

www.crick.ac.uk/openfordiscovery

Enter the world of discovery science in our new exhibition, Open for Discovery...

- Who was Francis Crick?
- What does it take to be a Crick scientist?
- Hear some of the big research questions that get our scientists out of bed in the morning and keep them working through the night

There's also be a chance to share your big science question with us: if you could discover one thing about human biology, what would it be?