



THE PRIORY ACADEMY

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# Science News

Henry Taylor

## **New advancement in HIV treatment**

Researchers at the University of Amsterdam have presented work utilising CRISPR biotechnology to essentially ‘cut’ HIV DNA present in the T-lymphocytes (a type of white blood cell involved in initiating a cell-mediated immune response) out of patient’s cells. CRISPR is a type of DNA sequence commonly found in bacteria which the bacteria can use to edit their own genome, removing any DNA inserted into them by viruses. While the idea of a bacteria catching a cold may seem rather alien to a human being, the threat is all too real for the lowly *Escherichia coli* bacteria. Since the discovery of these CRISPR sequences and their action as an anti-viral defense mechanism in 1987, biochemists have been working to harness this power with regards to gene editing in humans.

After the Nobel prize winning work of Emmanuelle Charpentier and Jennifer Doudna in 2020 greatly furthered understanding about the CRISPR-Cas9 genome editing technique, researchers have now begun to apply this to HIV infection. The viral DNA is removed from the host cell in order to prevent further reproduction of the virus in the body, the devastating process by which HIV destroys immune cells. The treatment still has a way to go in terms of identifying possible side effects and determining the efficacy long term. While current HIV patients are required to take daily antiretroviral drugs, further advancements in CRISPR and other treatments have now been shown to have some ability to minimise AIDS risks and could offer a permanent replacement to often more disruptive medications, such as radiotherapy.

# Environmental News

Rachel Ballantyne

## Cactus-made plastic?

As people are increasingly turning against plastic, one key issue posed is what alternative material can be used. Single use materials are needed for certain sources, such as when packaging is required but cannot be suitably reused, and the challenge is finding a different source to non-renewables. Plant made plastic is an clear option – making a material that is flexible but durable, as well as biodegradable. Cacti based plastic was a discovery made in 2019 by researcher Sandra Pascoe in Mexico, who was researching different members of the nopal cactus family. It involves removing and peeling leaves from a cactus, and then blending it into a juice to be mixed with natural substances such as glycerol, natural waxes and proteins. The material resembles plastic once dried on a hot plate, and can either degrade in water after a few days, or a garden-style compost after a few months. It is non-harmful to people and animals alike, so contamination is not an issue. There are several other plants that can make bio-based plastic from their sugars, such as corn, but issues can arise surrounding soil degradation from excessive fertilizer when the plants have to be harvested at such a fast rate. Cacti, on the other hand, can grow with little need for care or water, and can have leaves removed for processing that regrow. Pascoe is last said to be researching which types of cactus are most efficient, but hopefully this material will soon become available to the public!

# Technology News

Isaac Eccles

## Quantum computing

Recent breakthroughs in quantum computing are being made that take us closer to a true quantum computer. However, many people do not understand what a “quantum” computer would do, or what one even is. The basic idea of a quantum computer is that they do not work on binary (the system used by regular computers using 1s and 0s) but instead take any value between 1 and 0; this gives the computer more power as it can process and hold more data. Quantum computers have many advantages, such as complicated calculations, although unfortunately hacking is one of the most improved aspects to a quantum computer (which I will now shorten to a QC) as they can perform calculations faster. This is important as encryption works by using incredibly large prime numbers that are individual to a computer address. When sending an encrypted message, your prime number is multiplied with the receiver's to get an astronomically large number that is nearly impossible to factorize. This is what makes it nearly impossible to steal another persons prime number. If you used the most efficient methods of factorization, a normal computer would take thousands of years to decode it. However, a QC could do it in minutes. This is a threat to security as there is a method of data collection known as SNDL (Store now decode later). This means that there are very few safe secrets, as almost all bank numbers are stored and many social security numbers are on this list too.

# Seasonal News

Isaac Eccles

## Five unusual Easter traditions

Hopefully you had a great Easter. Let's take a look at five of the strangest Easter traditions!

1. In a French town called Haux, residents crack over four thousand eggs to create a giant omelette that serves over a thousand people. The eggs are cracked in the morning and are served at lunch, dinner and breakfast for the residents. The tradition stems from Napoleon, enjoying an omelette so much that he commanded a huge one to be made for his whole army the next day.
2. In the Philippines, it is part of a tradition for some religious people to re-enact the crucifixion to cleanse themselves of their sins. Self flagellation is also practiced, the act of whipping oneself for religious reasons. The traditions are heavily frowned upon by the Catholic Church however all attempts to stop them have been fruitless.
3. In Greece, traditional multicolored Easter eggs are replaced with only red ones. This symbolizes not only the blood of Christ, but are also used to symbolize life.
4. In South America, a common tradition is building a real sized scarecrow that is supposed to represent Judas. They then beat these figures with sticks.
5. In Ethiopia, people abstain from eating meat and other animal products, such as milk, for fifty-five days after Easter. This is done because they believe that the death of Christ was extremely important, even more important than his birth!

# School News

**Liam Ballard**

## **Year 8 Francophonie on the road Workshop**

On 19<sup>th</sup> March, LSST was visited by a French Workshop team! Around thirty students from LSST and also a group of students from Sir Robert Pattinson Academy got to take part in this amazing event. There was a variety of different activities for participating students to enjoy!

### Paris Olympics 2024:

The first activity was a series of different questions about sport and different athletes competing in this year's Olympic games. Two students even won a 2024 Olympics-themed pencil case!

### VR tour:

Participating students had the opportunity to go on a five-minute ('cinq minute') virtual reality tour of the Notre Dame Cathedral. This super experience took you on a wonderful trip around the cathedral and the surrounding area. 'Très Bien!'

### Gargoyles:

Students also got to make their own clay model of a gargoyle! These were based off the real gargoyles from the cathedral, combined with their own ideas too. This yielded some very creative results!

'Merci beaucoup' to our visitors for giving us such a brilliant chance to expand our French knowledge. It was 'intéressant'.

# Seasonal News

Shay Ware

## How much do you know about Ramadan?

The holy month for Muslims, Ramadan Kareem, in the UK started on the 10<sup>th</sup> of March, with fasting beginning on the 11<sup>th</sup> and ending after 30 days on the 9<sup>th</sup> of April. Ramadan is typically observed by Muslims not eating or drinking in daylight hours. Other actions that will break your fast including drinking, or smoking of any kind of “interaction”. If this happens, your fast will be broken. However, there some valid reasons that allow a person to not fast. These are: children before puberty, women during their period, travelers, pregnant or breastfeeding women, and some elderly. In dark hours, there are two main meals. The meal in the morning is called Suhur (سحور), and the meal in the afternoon is called Iftar (إفطار). In the UK, fasting begins at 6:18am and ends at 6:00pm. The meaning of Ramadan is for Muslims to get closer to Allah and to feel the experience of people less fortunate than themselves. This current Ramadan is the 1398<sup>th</sup>, with the first ever Ramadan in 624 CE. This was located in the city of Medina of Modern day Saudi Arabia, 14 years after Islam was first founded in Mecca in 610 CE.

# Sports News

Max Stothard

## Football Fixtures Postponed

Exactly six games have been postponed due to duties in leagues like the FA cup, Champions league and Europa league. The Arsenal vs Chelsea game has been postponed and their next games are Arsenal vs Manchester City and Chelsea vs Burnley. Manchester United vs Sheffield United was also postponed, and their next matches include Manchester united vs Brentford and Sheffield united vs Fulham. Crystal palace vs Newcastle was also among the postponed matches and next they play West Ham at Newcastle and Nottingham forest away at the City ground for the Eagles. Wolves and Bournemouth were planned to play this, but that has also been postponed, so instead Wolves play Aston Villa and Bournemouth play at home to Everton.

The four games still on are: Burnley at home against Brentford, Luton at home to Nottingham Forest, Fulham at home to Tottenham, and West Ham at home to Aston Villa. The last two fixtures postponed are Liverpool vs Everton where Liverpool next play Brighton at home, and Everton are away at Bournemouth. The last is Manchester City vs Brighton, where Manchester City next plays Arsenal, and Brighton play away at Anfield facing Liverpool. Currently, the top five standings are: Arsenal in 1st, Liverpool in 2nd, Manchester City in 3rd, Aston Villa 4th, and Tottenham in 5th.