

The Yearbook

We take stock of who made headlines this year for enlightening us and making us think.



Credit: ES Tech Archive/Alamy Stock Photo

Bill Gates Most likely to take advantage of a teachable moment

Microsoft's co-founder and philanthropist Bill Gates had a rare opportunity to teach US President Donald Trump a little about infectious disease when they met to discuss science and innovation—once during Trump's transition into the presidency in December 2016 and then again at the White House in March 2017. In a video obtained by MSNBC of a Bill & Melinda Gates Foundation event, Gates recalls having to explain to Trump on both occasions the difference between HIV and HPV. Gates says that he explained to the president that the two viruses “are rarely confused with each other.” Although both viruses can be sexually transmitted, HIV infects the immune system and is the virus responsible for AIDS, whereas HPV most commonly affects skin cells and can cause cervical and other cancers. Gates also says that he advised Trump against ordering an investigation looking at the ill effects of vaccines.



Credit: Andriy Blokhin/Alamy Stock Photo

The women of the Salk Institute Most likely to stand up for themselves

Two women settled gender discrimination lawsuits they individually brought against the Salk Institute for Biological Studies in San Diego, California. Kathy Jones and Vicki Lundblad had filed lawsuits in 2017 alleging that institute administrators created obstacles that kept the women from opportunities to advance in their work as well as from funding opportunities. Jones researches transcription factors in HIV and cancer, while Lundblad studies telomeres, the genetic code at the ends of chromosomes. The Salk Institute had previously denied the charges, but the details of the recent settlement remain undisclosed. A third researcher, Beverly Emerson, filed a similar lawsuit but left the institute after her contract was not renewed at the end of last year. As *Nature Medicine* went to press, Emerson's lawsuit was set to go to trial this month. Emerson was also one of eight women at the Salk Institute who came forward to accuse Salk cancer geneticist Inder Verma of sexual harassment. In statements to *Science* and *The San Diego Union-Tribune* earlier this year, Verma denied the allegations against him. The Salk Institute began to investigate the allegations, but Verma resigned in June before the institute's board reached any conclusions based on the investigation.



Credit: The Photo Access/Alamy Stock Photo

George Church Most likely to help you capitalize on your DNA

The Harvard Medical School geneticist George Church made headlines this year after a company he co-founded announced that it would create a web-based marketplace where people could sell their genetic data to interested healthcare companies. The company, Nebula Genomics, is being funded by more than \$4 million in venture capital investments and will use blockchain technology. Blockchain allows users to pay with cryptocurrencies such as bitcoin and for any data exchanges made within a transaction to only be visible to those involved in the transaction, thus keeping the data secure. Church is also a founder of Veritas Genetics, a DNA sequencing company that is partnering with Nebula to provide a technical platform for the new marketplace. Many healthcare companies are seeking genomic information from people to inform their development of drugs and other products, and the hope is that Nebula will help companies access those data directly from individuals.



Credit: PCN Photography/Alamy Stock Photo

Serena Williams Most likely to state the facts

Tennis superstar Serena Williams opened up about her struggles with being a new parent and a working mother, ushering in conversations about maternal health. Between her comments in a *Vogue* story earlier this year, an HBO documentary series that followed Williams and an Instagram post she shared in August, Williams talked about dealing with postpartum depression, a condition that affects one in seven new mothers. Williams' candor also raised awareness about maternal health in general, especially among African-American women. African-American women in the US are as much as four times more likely to die from pregnancy-related complications than women of European ancestry. Williams, who has a history of blood clots, was unable to take her regular medication because of an emergency C-section she had to undergo for the birth of her daughter. She then developed several blood clots in her lungs that had to be treated during her recovery. Williams is among roughly 50,000 women in the US who experience life-threatening complications related to pregnancy each year.



Credit: Jeff Morgan 10/Alamy Stock Photo

Paul McCartney Least likely to have discovered DNA

In an article in *GQ* magazine this year, Paul McCartney, perhaps jokingly, claimed that he, and not Francis Crick and James Watson, was the first to discover DNA's structure. McCartney talked about being on an acid trip—being high on the drug lysergic acid diethylamide, commonly known as LSD—and having a vision that revealed to him a spiral structure studded with multicolored gems, much like the double-helix structure of DNA in its common depiction with its four basic blocks in different colors. He then told the magazine that the discovery of DNA's structure was revealed “shortly thereafter.” Unfortunately for McCartney, who claimed to have had this vision in the '60s, DNA's structure had been revealed by Crick and Watson in 1953.

Shraddha Chakradhar

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