

Scientists remember Turing, father of modern computers

June 23 2012, by Mariette le Roux



A World War II Enigma decoding machine pictured at Bletchley Park, central England, in 2004. British mathematician Alan Turing is credited with breaking code used to encrypt communications between German U-boats, sinking merchant ships bringing much-needed supplies to Britain. The centenary of Turing's birth will be marked with events from Bangalore to Texas on June 23.

Scientists will gather from Bangalore to Texas on Saturday to honour British mathematician Alan Turing, a pioneer of the modern computer whose code-cracking is credited with shortening World War II.

On the June 23 centenary of his birth in London, several cities will host conferences and exhibitions to celebrate the work of a man hailed as a rare genius today but persecuted for being gay when he was alive.

"Of all the finest types of intelligence -- human, artificial and military --

Turing is perhaps the only person to have made a world-changing contribution to all three," the [science journal Nature](#) said in a recent editorial.

Remembered as an eccentric with "an impish sense of humour", Turing died aged 41 of [cyanide poisoning](#) after he was convicted in 1952 of "gross indecency" for being homosexual, then illegal in the UK, and sentenced to chemical castration.

Some believe he took his own life by eating a poisoned apple in 1954, but this has not been proven.

In his short life, Turing lay the theoretical foundation for the modern-day computer, set the standard for artificial intelligence, unravelled German codes in a war effort some say saved millions of lives, and came close to solving a biological riddle that still confounds scientists today.

In 1936, Turing published a paper conceiving of a "universal Turing machine".

Having told people he was trying to "build a brain", his theory was the first to consider feeding programmes into a machine as data, allowing a single machine to perform the functions of many -- just like today's computers.

The first version of Turing's Automatic Computing Engine (ACE) was completed by other scientists and engineers in 1950, then the fastest machine in the world.

"Inventing the computer is such a huge contribution it sounds strange to talk about there being an even greater contribution to that. But I suppose his code-breaking contribution at Bletchley Park in terms of its impact on the world is even greater," said mathematical logician Jack Copeland.

Bletchley Park, northwest of London, housed the British decoding effort during [World War II](#).



Queen Elizabeth II (L) and husband Prince Philip, with wartime operator Ruth Bourne (C), presses a button on the Enigma codebreaking machine during a visit to Bletchley Park, near London, in July 2011. Bletchley Park housed the British decoding effort during World War II.

In work that remained secret until long after the war, Turing is credited with breaking the code used to encrypt communications between German U-boats operating in the North Atlantic, sinking merchant ships bringing much-needed supplies to the island nation.

"Turing managed to break into the daily U-boat traffic and once they were reading the messages, then they knew the positions of the U-boats and the convoys could be routed around the U-boats," Copeland, who has written several books about Turing, told AFP.

Some historians have estimated that without this breakthrough, a war claiming millions of lives every year might have continued another year or two by allowing Hitler to entrench his position in Europe.

In another incarnation, Turing developed a measure of [artificial intelligence](#) that is still applied today -- the so-called Turing Test which states that a machine would be truly intelligent if a human could not differentiate between its response to a question and that of another human.

And towards the end of his life, he published research on how organisms develop certain patterns, like stripes on a zebra or spots on a cow -- his most cited paper.

In spite of his achievements, Turing's name was not widely known when he was alive.

He was said to have been shy but funny, "a very sort of geekish mathematician", according to Barry Cooper, himself a mathematician who heads the Turing centenary advisory committee.

He was also an excellent long-distance runner.

A hay-fever sufferer, Turing took to wearing a gas mask to protect himself from pollen while cycling.

As a boy, he was described as an odd character, untidy and scruffy, Cooper said.

He was made an Officer of the Most Excellent Order of the British Empire after the war, the second lowest-ranked order, in a move regarded as an insult by Turing fans today.

Three years ago, then-British prime minister Gordon Brown issued a posthumous apology and said Turing had been treated "terribly."

Commemorative events are being planned this weekend in countries

including India, South Korea and the United States as well as at the universities of Manchester and Cambridge in Britain, where Turing worked.

There will be a music concert in his honour in Seattle and a tribute walk ending at Sackville Park in Manchester where a life-size statue of Turing sits on a bench holding an apple.

"I don't think he could have imagined" his posthumous acclaim, said Copeland.

"I think he probably wouldn't have cared much, either.

"He was driven by curiosity and the spirit of scientific enquiry and as long as he knew, he didn't much care about passing his ideas on to other people."

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