

Alan M. Turing

Alan Mathison Turing, born in London on June 23, 1912, is widely considered one of the most creative thinkers of the 20th century. *Time* magazine recently named Turing as one of the 100 key minds of the century. His interests, from computing and the mind to information science and biology, span many of the emerging themes of the 21st century. Turing is also one of the great pioneers of computer science and laid much of the theoretical groundwork for modern computing.

The concept of the *Universal Turing Machine*, first described in a 1936 publication, was revolutionary for a time when most computers were designed for a specific purpose. During the Second World War, Turing worked as chief cryptanalyst at Bletchley Park where his principal role was the cracking of the code of the German *Enigma* cipher machine.

During his time at the *National Physical Laboratory* (London), he worked on the design of an electronic computer (the *Automatic Computing Engine*, ACE) and investigated connectionist models. His interest in computing machines and intelligence made him one of the fathers of the field known as *artificial intelligence*. In Turing's mind, there was nothing the brain could do that a well-designed computer could not, a question that still intrigues scientists today. In his celebrated "Mind" paper, he described the *Turing Test* as a means to determine whether a computer program has intelligence.

Turing spent the last few years of his life developing a morphogenetic theory for biological pattern formation and, with his *Turing Instability*, introduced a central concept of mathematical biology.

Alan Mathison Turing died on June 7, 1954, of cyanide poisoning.

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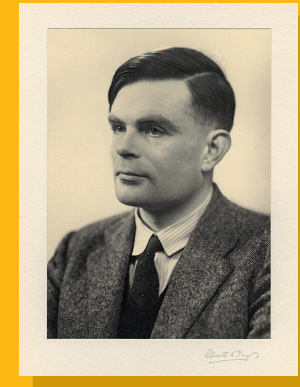
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Organization of the National Portrait Gallery, London

Turing Day

Computing science 90 years from the birth
of Alan Mathison Turing

Friday, June 28, 2002
Lausanne
Switzerland

Logic Systems Laboratory
Swiss Federal Institute of Technology
CH-1015 Lausanne



ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

lslwww.epfl.ch/turingday

Purpose

On June 28, 2002, we commemorate the 90th anniversary of Alan Mathison Turing's birthday in the form of a one-day workshop held at the Swiss Federal Institute of Technology in Lausanne.

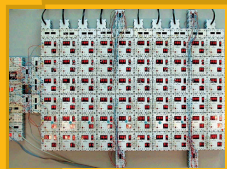
The goal of this special day is to remember Alan Turing and to revisit his contributions to computing science. The workshop will consist of a series of invited talks given by internationally-renowned experts in the field.

Exhibitions



Display and demonstration of an original ENIGMA machine.

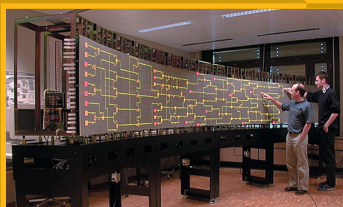
Exhibition of historical computers (organized by Bolo's Computer Museum).



Demonstration of a self-replicating universal Turing machine.

(c) André Badertscher

Demonstration of Turing's neural networks on the BioWall.



(c) André Badertscher

Program

- 8:15 - 9:00 Registration
- 9:00 - 9:15 Welcome and Introduction
Daniel Mange, Christof Teuscher
EPFL, CH
- 9:15 - 10:00 The Church-Turing Thesis: Has it been Superseded?
Martin Davis
Professor Emeritus, NYU; Visiting Scholar, UC, Berkeley, USA
- 10:00 - 10:30 Coffee Break, Exhibitions, and Demos
- 10:30 - 11:15 What did Turing do at Bletchley Park?
Tony Sale
Ex Museums Director, Bletchley Park, UK; CodesAndCiphers.org.uk
- 11:15 - 12:00 Artificial Intelligence and the Turing Test
B. Jack Copeland
University of Canterbury, NZ
- 12:00 - 14:00 Lunch
- 14:00 - 14:45 Watching the Daisies Grow: Turing and Fibonacci Phyllotaxis
Jonathan Swinton
Proteom Ltd., Cambridge, UK
- 14:45 - 15:30 The Strange Loop - from Epimenides to Cantor to Russell to Richard to Gödel to Turing to Tarski to von Neumann to Crick and Watson
Douglas R. Hofstadter
Indiana University, USA; Visiting Professor, University of Bologna, I
- 15:30 - 16:00 Coffee Break, Exhibitions, and Demos
- 16:00 - 16:30 Connectionism, Turing, and the Brain
Christof Teuscher
EPFL, CH
- 16:30 - 17:00 The Turing Machine Redux: a Bio-Inspired Implementation
Gianluca Tempesti
EPFL, CH
- 17:00 - 17:45 What would Alan Turing have done after 1954?
Andrew Hodges
Wadham College, University of Oxford, UK

Practical Info

Location

The workshop will be held in auditorium CO2 of the Swiss Federal Institute of Technology (EPFL). The registration, the exhibitions, and the coffee breaks will take place near the entrance of the auditorium. Lunch will be served in the "Parmentier" restaurant. The site of the EPFL may be reached easily by car or by public transportation. Directions can be found on the Turing Day website.

Fee

The registration fee includes participation in the workshop, lunch, and coffee breaks.

Students EPFL	free (without lunch)
Staff EPFL (incl. PhD students)	SFR 80.- / \$45 / EUR 55
Students (incl. PhD students)	SFR 80.- / \$45 / EUR 55
Others	SFR 200.- / \$120 / EUR 135

Registration and Payment

Please use the fax registration form on the Turing Day website.

Further Information

<http://www.epfl.ch/turingday>

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