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## Gödel letter and the development of complexity theory

**Abstract:** The decidability question, i.e., whether any mathematical statement could be computationally proven true or false, was raised by Hilbert and remained open until Turing answered it in the negative. Then, most efforts in theoretical computer science turned to complexity theory and the need to classify decidable problems according to their difficulty. Among others, the classes P (problems solvable in polynomial time) and NP (problems solvable in non-deterministic polynomial time) were defined, and one of the most challenging scientific quests of our days arose: whether  $P=NP$ . This still open question has implications not only in computer science, mathematics and physics, but also in biology, sociology and economics, and it can be seen as a direct consequence of Turing's way of looking through the algorithmic lens at different disciplines to discover how pervasive computation is.



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Default Data

**Time** 10:45 to 11:45  
**Location** Room 2.2.D08  
Building Sabatini (2nd Floor)

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