

A short history of Poincaré conjecture

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Abstract

In 1904 H. Poincaré proposed the problem of the existence of a simply connected closed 3-manifold not homeomorphic to the 3-sphere. A negative answer to the question was soon labeled as the Poincaré conjecture, although Poincaré himself made no guess about the answer. The question puzzled mathematicians for over 100 years and finally a positive answer to the conjecture was recently obtained by G. Perelman. As many of the problems remained open for a long time, Poincaré conjecture or better, the tentative of a deeper understanding of the problem, produced an incalculable amount of mathematics. The aim of this talk is to give a report, necessarily short and incomplete, on some of those developments.