Berlin Mathematical School

BMS Friday Colloquium

Friday 11 February 2011 at 14:15

Tea before the lecture begins at 13:00

BMS Loft, Urania, An der Urania 17, 10787 Berlin

Prof. Dr. David P. Williamson

(Cornell U)

What Computers Can Compute

Since the early part of the 20th century, mathematicians have been exploring the limits of what computers can and cannot compute; since the last part of the 20th century, the focus has been on what computers can compute efficiently. In the last two decades, there has been a concerted effort to understand the limits of efficient approximate computation. In this talk, David Williamson will outline the area of approximation algorithms.

Approximation algorithms are efficient algorithms for computing near-optimal solutions to problems in discrete optimization, such as the famous traveling salesman problem. He will sketch a few results from the field and mention some outstanding open problems.

David P. Williamson of the Cornell University received one of this year's research awards from the Alexander von Humboldt Foundation. The prize is endowed with 60,000 € and allows foreign scientists to conduct research in Germany. Since September 2010, David Williamson works with Martin Skutella at the Institute of Mathematics of TU Berlin.

David Williamson is an internationally renowned researcher in the areas of discrete mathematics, theoretical computer science and operations research. During his stay in Germany, he intends, among other things, to work on the Traveling Salesman Problem. Here, the task is to optimize the sequence of visits to several places so that the distance traveled is as short as possible.

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