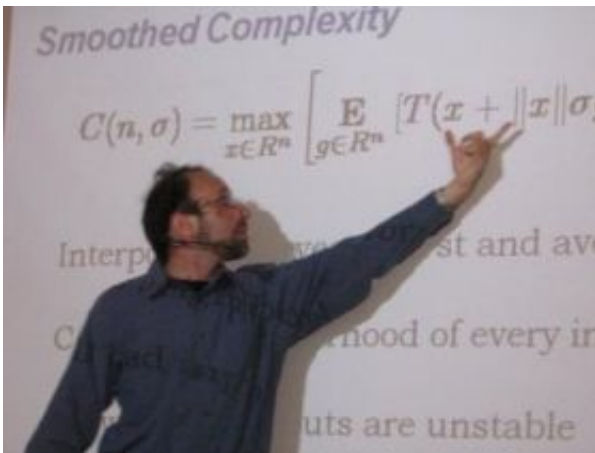


Yale Professor wins Gödel Prize for showing how computer algorithms solve problems

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Daniel Spielman presenting Gödel Prize lecture. Photo: Donna Marland

Daniel A. Spielman, professor of applied mathematics and computer science at Yale, has been awarded the prestigious Gödel Prize for developing a technique, known as Smoothed Analysis, that helps predict the success of problem-solving with real data and computers. He shared the prize with Shang-Hua Teng, professor of computer science at Boston University.

The award, carrying a \$5,000 honorarium, recognizes outstanding papers in theoretical computer science. It was presented to Spielman and Teng by the Special Interest Group on Algorithms and Computing Theory (SIGACT) of the Association for Computing Machinery (ACM) and the

European Association for Theoretical Computer Science (EATCS) at the International Colloquium on Automata, Languages, and Programming (ICALP) in Reykjavik, Iceland.

According to the association, this rigorous mathematical analysis provided a giant leap forward for predicting the performance of optimization tools for real data. Understanding the mathematical structure of these problems is necessary for the design of efficient protocols and software. The paper by Spielman and Teng, "Smoothed Analysis of Algorithms: Why the Simplex Algorithm Usually Takes Polynomial Time," was published in the Journal of the Association for Computing Machinery in 2004.

Spielman, a member of the Yale faculty since 2005, previously taught at Massachusetts Institute of Technology (MIT), after completing his postdoctoral work in mathematical sciences at the University of California Berkeley and his PhD at MIT. He graduated summa cum laude with exceptional distinction in computer science from Yale.

Spielman was previously honored with a National Science Foundation Career Award, and an Alfred P. Sloan Foundation Research Fellowship, and his work on Smoothed Analysis was cited by the National Science Foundation as one of three significant accomplishments funded by the computer science division of the NSF in 2003. He also received the celebrated 2002 Information Theory Society Paper Award given by the IEEE Information Theory Society.

Source: Yale University

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