

IN PARTNERSHIP WITH CS SEMINARS

ACO DISTINGUISHED LECTURE

ACO CENTER (ALGORITHMS, COMBINATORICS AND OPTIMIZATION)



MARTIN GRÖTSCHEL

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Berlin, Germany

Friday, April 4, 2025 @ 11 a.m.
CAL IT 2 Auditorium

"ON THE MUTUAL FERTILIZATION OF THEORY, APPLICATION, AND EXPERIMENTS IN MATH & CS RESEARCH"

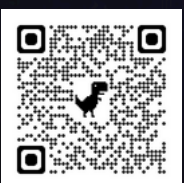
Abstract: The setting of goals and the execution of meaningful research are a blend of curiosity, pure thought, hands-on applications, and well-designed experiments. Their productive interplay is a powerful source of inspiration for scientists. How does this happen in Mathematics and Computer Science? Are there pitfalls and obstacles?

In my lecture I will share experiences – surprising, successful, and disappointing – from interdisciplinary and collaborative projects of this nature I was involved in. They range from theoretical research in geometry, convexity, combinatorics, numerical analysis, and optimization through the design, complexity analysis, and implementation of algorithms, to applications in telecommunications, gas pipeline network and VLSI design, public transport, logistics, healthcare, physics, and manufacturing. I will outline these applications, discuss their contributions to theory development, and explore how theory impacts real-world practice.

Bio: Martin Grötschel has made significant contributions to the theory and applications of discrete mathematics, optimization, and operations research. His scientific achievements were honored with several distinctions including the Fulkerson, the Dantzig, the Leibniz, the Beckurts, the John von Neumann Theory Prize, and the Cantor Medal. He holds four honorary degrees and is a member of seven scientific academies, including the US National Academy of Engineering. He was, e.g., Professor of information Technology at TU Berlin, President of the Zuse Institute, Secretary General of the International Mathematical Union and President of the Berlin-Brandenburg Academy of Sciences and Humanities.

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