Einladung zum Vortrag

05. Juli 2016, 16.00 Uhr c.t.
Universität Bremen | Cartesium | Rotunde

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Is Quantum Computing Sci-fi? - Challenges in Realization

The two major drivers for quantum computing have been the need to overcome the limitations of classical deterministic digital computers in terms of both computational complexity and the technology for building them. First, we give a snapshot of the application domains where for certain problems remarkable speed-up over classical computing have been achieved by quantum computing. Next, we delve into the basic model of quantum computing. Then, the progress in technology is sketched briefly. Finally, we present the specific challenges in designing efficient quantum circuits comprising a cascade of gates (primitive quantum operations) in order to realize quantum computing reliably.

Biografie

Research contributions of Prof. Susmita Sur-Kolay are in the areas of algorithmic CAD for VLSI physical design, fault modeling and testing, synthesis of quantum computers, and graph algorithms. She has authored/co-authored several technical papers in international journals and refereed conference proceedings, two edited books and a chapter in the Handbook on Algorithms for VLSI Physical Design. She has served as on Technical Program Committees of many international conferences and as Technical Program Co-Chair for three of these, on the editorial board of Proc. of IEE CDT and as an Associate Editor of the IEEE Transactions on VLSI Systems. She is a Senior Member of IEEE, the IEEE WIE AG Chair (2011-12) of Kolkata Section, Founding Chair of India Chapter of IEEE CEDA, Member of ACM, and was a Distinguished Visitor of IEEE Computer Society (India), 2006-2009. Among other awards, she was the recipient of the President of India Gold Medal (summa cum laude) at IIT Kharagpur (1980) and IBM Faculty Award (2009).

Dieser Gast wurde von Rolf Drechsler eingeladen.