Zentrum für Hochleistungsrechnen

TECHNISCHE
UNIVERSITÄT
DRESDEN

EINLADUNG
zum
ZHR - KOLLOQUIUM

Titel: **Cellular Automata: The Computing Machine in the VLSI era**

Referent: **Biplab K. Sikdar**
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Kurzfassung:

The modern integrated circuits which comprise of hundreds of thousands of logic elements or memory cells have led to a special era in chip design – namely the VLSI (Very large Scale Integration) era. In order to elegantly handle the enormous complexity, integrated circuit designers stress on modular design where the interconnection between components should be kept as local as possible. To fulfill the above design objective, cellular automata offer a cost-effective alternative to existing tools and structures used for VLSI design.

The talk presents a brief history of the CA research undertaken to improve the design methodology suitable for VLSI implementation. The possibility of developing different special purpose CA-based hardware tools in various fields - image processing, pattern recognition, testing of VLSI circuits, and security systems is discussed. The talk also highlights the importance of hierarchical design as abstraction and hierarchy are the essential ingredients of complex systems and demonstrates various ideas of how both hierarchy and modularity can be combined through Cellular Automata.

Ort: **Willers-Bau C 207**
Zeit: **Mittwoch, den 3. November 2004, 11.00 Uhr**

gez. Prof. Dr. Wolfgang E. Nagel