

Abstract Frau Prof. Dr. Sybille Hellebrand

Efficient Test and Diagnosis for Systems on a Chip

Abstract:

State-of-the-art nanoscale technologies allow for the integration of billions of transistors with feature sizes of 14 nm or below into a single chip. This enables innovative approaches and solutions in many application domains, but it also comes along with fundamental challenges. To ensure, for example, the functional safety of autonomous systems, manufacturing tests must screen out defective devices, and periodic in-system tests must detect evolving hardware problems before they actually cause failures. This presentation introduces into the test and diagnosis problem for integrated circuits and systems and gives an overview of the research activities of the Computer Engineering Group in this domain. In particular, new challenges for nanoscale circuits and respective solutions are highlighted.