

cfaed Colloquium

DATE: 27 September 2019

TIME: 15:25 pm

LOCATION: TU Dresden, Barkhausen-Bau (BAR), Heinz-Schönfeld-Hörsaal BAR I90, Georg-Schumann-Str. 13, 01187 Dresden

SPEAKER: **Steffen Märcker / Michael Raitza**
TUD/cfaed (Kumar Group)

TITLE: *“Exploring Reconfigurability with Model Checking – A Success Story”*

Abstract:

We propose a new analysis method to evaluate the potential and the impact of a new transistor device technology on circuit design beginning with the first FEM simulations of a device.

Based on a charge-transport model that makes only little compromise on precision, we compute maximal delay and power dissipation as well as long-run averages of delays and energy consumption most relevant in asynchronous logic.

The method computes these measures and others without user interaction and hence enables the analysis of whole families of circuit implementations with a push of a button. We demonstrate the applicability in a comprehensive automated analysis of the design space of 3-Minority using a Germanium Nanowire polarity-controllable MIGFET transistor that is currently in research.