cfaed Colloquium

DATE: 27 September 2019
TIME: 12:25 pm
LOCATION: TU Dresden, Barkhausen-Bau (BAR), Heinz-Schönfeld-Hörsaal BAR I90,
Georg-Schumann-Str. 13, 01187 Dresden

SPEAKER: **Dr. Lucas Wetzel**
Project Leader MPI-PKS

TITLE: ***"Self-organized Synchronization in Electronic Systems"***

Abstract:
We develop a modular and scalable architecture design for the implementation of a novel synchronization layer for large, or spatially distributed electronic systems. It relies on self-organized synchronization of mutually coupled electronic clocks. The project plan includes two prototype production runs in BiCMOS technology and the setup of a demonstrator. In networks with up to 288 clocks we will validate that there is no phase-drift between the clocks in the network once a synchronized state has self-organized, and that the quality of such synchronized states exceeds that of an individual clock.

This project will lay the foundation for the application of this novel approach in the next-generation electronic systems, e.g., in communications, antenna arrays, indoor navigation, drone and robot swarms and data-centers.