

Abstract:

Title: Abstraction-refinement theory for hybrid system design

In this presentation I will introduce a component model and an analysis-refinement theory for the design of hybrid systems. This theory enables efficient analysis and optimization of a broad class of real-time computer systems that interact with their environment.

Furthermore, the presented theory relates several models of computation and allows to combine their results.

Short-bio:

Marco Bekooij is part-time full professor in the chair Computer Architecture for Embedded Systems (CAES) at the University of Twente and senior principal research scientist at NXP-semiconductors in Eindhoven. He obtained a master degree in electrical engineering from the University of Twente and a PhD degree from the University of Eindhoven. His research is focused on real-time multiprocessor system design for signal processing applications. This includes the definition of real-time analysis models, the design of predictable multiprocessor hardware, and algorithm design for radios and radars. The real-time analysis algorithms have been applied in an optimizing multiprocessor compiler.