Arjan van der Schaft

Title: Bisimulation theory for multi-modal physical systems

Abstract: In this talk we focus on a theory of hybrid simulation and bisimulation relations for multi-modal physical systems, which respects and exploits the physical structure of the system. A structural notion of (bi)simulation relation is used, which combines the continuous and discrete part of the dynamics. In particular we discuss canonical reset rules generalizing the classical charge and flux conservation principle known from switching electrical circuits.