Title: Modeling Complex Systems: A Coalgebraic Perspective

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Abstract:
In the past decades, software component techniques have played an important role in the development of complex systems. Formal foundations on top of which rigorous methodologies for the description and analysis of component-based systems could be built are rather necessary for components. This talk summarizes my work in the past years on this direction: I will give an introduction on the coalgebraic model of software components, and discuss a heterogeneous calculi for components as coalgebras, which can be used in combining components with different behavior patterns explicitly specified. Furthermore, I will introduce the “Unifying" coalgebraic semantics for different view models in the “Unified” Modeling Language (UML).