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Nota di contenuto	You Can Program What You Want but You Cannot Compute What You Want -- Transforming Threads Into Actors: Learning Concurrency Structure from Execution Traces -- Interfaces for Stream Processing Systems -- Simulation-Based Reachability Analysis for Nonlinear Systems Using Componentwise Contraction Properties -- Predictability Issues in Mixed-Criticality Real-Time Systems -- Model-based Representations for Dataflow Schedules -- Hybrid Simulation Safety: Limbos and Zero Crossings -- Ptolemy-HLA: A Cyber-Physical System Distributed Simulation Framework -- Computing Average Response Time -- Modeling Dynamical Phenomena in the Era of Big Data -- A Formal Semantics for Traffic Sequence Charts -- Code Generation for Flow Preservation in Multicore Systems -- A Semantic Account of

Rigorous Simulation -- On Determinism -- Lossy Channels in a Dataflow Model of Computation -- If We Could Go Back in Time. . .On the Use of `Unnatural' Time and Ordering in Dataflow Models -- Compressed Sensing in Cyber Physical Social Systems -- Embedded Software Design Methodology Based on Formal Models of Computation -- Anytime Algorithms in Time-Triggered Control Systems -- Autonomous Retailing: A Frontier for Cyber-Physical-Human Systems -- The Relativity Example: Is Terminological Innovation a Good Idea -- Hierarchical System Design with Vertical Contracts -- Abstraction and Refinement of Time in Hierarchically Decomposable Underspecified Architecture Simulations -- Cyber-Physical Systems Education: Explorations and Dreams -- Power is Overrated, Go for Friendliness! Expressiveness, Faithfulness, and Usability in Modeling: The Actor Experience -- Modular Code Generation from Synchronous Block Diagrams: Interfaces, Abstraction, and Compositionality -- Complexity Challenges in Development of Cyber-Physical Systems -- Augmenting State Models with Data Flow -- On the Road to Conviction: An Email Exchange with Edward Lee.

Sommario/riassunto

This Festschrift is published in honor of Edward A. Lee, Robert S. Pepper Distinguished Professor Emeritus and Professor in the Graduate School in the Department of Electrical Engineering and Computer Sciences at the University of California, Berkeley, USA, on the occasion of his 60th birthday. The title of this Festschrift is “Principles of Modeling" because Edward A. Lee has long been devoted to research that centers on the role of models in science and engineering. He has been examining the use and limitations of models, their formal properties, their role in cognition and interplay with creativity, and their ability to represent reality and physics. The Festschrift contains 29 papers that feature the broad range of Edward A. Lee’s research topics; such as embedded systems; real-time computing; computer architecture; modeling and simulation, and systems design.