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Modal Characterisations of Probabilistic and Fuzzy Bisimulations -- Pointer Program Derivation Using Coq: Graphs and Schorr-Waite Algorithm -- An LTL Model Checking Approach for Biological Parameter Inference -- SCC-Based Improved Reachability Analysis for Markov Decision Processes -- Comprehension of Spacecraft Telemetry Using Hierarchical Specifications of Behavior -- Timed Automata Verification via IC3 with Zones -- GRL: A Specification Language for Globally Asynchronous Locally Synchronous Systems -- A Formal Framework to Prove the Correctness of Model Driven Engineering Composition Operators -- A Formula-Based Approach for Automatic Fault Localization of Imperative Programs -- A Resource-Based Logic for Termination and Non-termination Proofs -- Practical Analysis Framework for Software-Based Attestation Scheme -- TAuth: Verifying Timed Security Protocols -- On the Formal Analysis of HMM Using Theorem Proving -- Formal Modeling and Analysis of Cassandra in Maude -- Bounded Model Checking High Level Petri Nets in PIPE+Verifier -- Fast Translation from LTL to Büchi Automata via Non-transition-Based Automata -- Complete Model-Based Equivalence Class Testing for the ETCS Ceiling Speed Monitor -- Contract-Based Verification of MATLAB and Simulink Matrix-Manipulating Code -- GPU Accelerated Counterexample Generation in LTL Model Checking -- Formal Throughput and Response Time Analysis of MARTE Models -- Extending MSVL with Function Calls.

| Sommario/riassunto | This book constitutes the refereed proceedings of the 16th International Conference on Formal Engineering Methods, ICFEM 2014, held in Luxembourg, Luxembourg, in November 2014. The 28 revised full papers presented were carefully reviewed and selected from 73 submissions. The papers cover a wide range of topics in the area of formal methods and software engineering and are devoted to advancing the state of the art of applying formal methods in practice. They focus in particular on combinations of conceptual and methodological aspects with their formal foundation and tool support. |