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	Nota di contenuto	Invited Papers -- Formal Methods for Privacy -- What Can Formal Methods Bring to Systems Biology? -- Guess and Verify – Back to the Future -- Verification, Testing and Statistics -- Security, Probability and Nearly Fair Coins in the Cryptographers' Café -- Model Checking I -- Recursive Abstractions for Parameterized Systems -- Abstract Model Checking without Computing the Abstraction -- Three-Valued Spotlight Abstractions -- Fair Model Checking with Process Counter Abstraction -- Compositionality -- Systematic Development of Trustworthy Component Systems -- Partial Order Reductions Using Compositional Confluence Detection -- A Formal Method for Developing Provably Correct Fault-Tolerant Systems Using Partial Refinement and Composition -- Verification -- Abstract Specification of the UBIFS File System for Flash Memory -- Inferring Mealy Machines -- Formal Management of CAD/CAM Processes -- Concurrency -- Translating Safe Petri Nets to Statecharts in a Structure-Preserving Way -- Symbolic Predictive Analysis for Concurrent Programs -- On the Difficulties of Concurrent-System Design, Illustrated with a 2×2 Switch Case Study -- Refinement -- Sums and Lovers: Case Studies in

Security, Compositionality and Refinement -- Iterative Refinement of Reverse-Engineered Models by Model-Based Testing -- Model Checking Linearizability via Refinement -- Static Analysis -- It's Doomed; We Can Prove It -- "Carbon Credits" for Resource-Bounded Computations Using Amortised Analysis -- Field-Sensitive Value Analysis by Field-Insensitive Analysis -- Theorem Proving -- Making Temporal Logic Calculational: A Tool for Unification and Discovery -- A Tableau for CTL* -- Certifiable Specification and Verification of C Programs -- Formal Reasoning about Expectation Properties for Continuous Random Variables -- Semantics -- The Denotational Semantics of slotted-Circus -- Unifying Probability with Nondeterminism -- Towards an Operational Semantics for Alloy -- A Robust Semantics Hides Fewer Errors -- Special Track: Industrial Applications I -- Analysis of a Clock Synchronization Protocol for Wireless Sensor Networks -- Formal Verification of Avionics Software Products -- Formal Verification of Curved Flight Collision Avoidance Maneuvers: A Case Study -- Object-Orientation -- Connecting UML and VDM++ with Open Tool Support -- Language and Tool Support for Class and State Machine Refinement in UML-B -- Dynamic Classes: Modular Asynchronous Evolution of Distributed Concurrent Objects -- Abstract Object Creation in Dynamic Logic -- Pointers -- Reasoning about Memory Layouts -- A Smooth Combination of Linear and Herbrand Equalities for Polynomial Time Must-Alias Analysis -- Real-Time -- On the Complexity of Synthesizing Relaxed and Graceful Bounded-Time 2-Phase Recovery -- Verifying Real-Time Systems against Scenario-Based Requirements -- Special Track: Tools and Industrial Applications II -- Formal Specification of a Cardiac Pacing System -- Automated Property Verification for Large Scale B Models -- Reduced Execution Semantics of MPI: From Theory to Practice -- Model Checking II -- A Metric Encoding for Bounded Model Checking -- An Incremental Approach to Scope-Bounded Checking Using a Lightweight Formal Method -- Verifying Information Flow Control over Unbounded Processes -- Specification and Verification of Web Applications in Rewriting Logic -- Industry-Day Abstracts -- Verifying the Microsoft Hyper-V Hypervisor with VCC -- Industrial Practice in Formal Methods: A Review -- Model-Based GUI Testing Using Uppaal at Novo Nordisk.

| Sommario/riassunto | This book presents the refereed proceedings of FM 2009, the 16th International Symposium on Formal Methods, held as the Second World Congress on Formal Methods in Eindhoven, The Netherlands, in November 2009 in the course of the first International Formal Methods Week, FMWeek 2009. The 45 revised full papers presented together with 5 invited papers and 3 additional papers from the Industry Day were carefully reviewed and selected from 139 submissions. The papers are organized in topical sections on model checking, compositionality, verification, concurrency, refinement, static analysis, theorem proving, semantics, industrial applications, object-orientation, pointers, real-time, tools and industrial applications, and industry-day abstracts. |