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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Invited Papers and Abstract -- Invariants and Well-Foundedness in Program Algebra -- A Theory of Software Product Line Refinement -- The TLA?+? Proof System: Building a Heterogeneous Verification Platform -- Grammars -- Subtyping Algorithm of Regular Tree Grammars with Disjoint Production Rules -- Minimal Tree Language Extensions: A Keystone of XML Type Compatibility and Evolution -- Tracking Down the Origins of Ambiguity in Context-Free Grammars -- Semantics -- Prioritized slotted-Circus -- A Denotational Semantical Model for Orc Language -- An Extended cCSP with Stable Failures Semantics -- Preference and Non-deterministic Choice -- Modelling -- Material Flow Abstraction of Manufacturing Systems -- Specification and Verification of a MPI Implementation for a MP-SoC -- Special Track: Formal Aspects of Software Testing and Grand Challenge in Verified Software -- Testing of Abstract Components -- Scalable Distributed Concolic Testing: A Case Study on a Flash Storage Platform -- Analyzing a Formal Specification of Mondex Using Model Checking -- Formal Modelling of Separation Kernel Components -- Mechanized Verification with Sharing -- Industrial-Strength Certified SAT Solving

through Verified SAT Proof Checking -- Dynamite 2.0: New Features Based on UnSAT-Core Extraction to Improve Verification of Software Requirements -- Logics -- Complete Calculi for Structured Specifications in Fork Algebra -- Towards Managing Dynamic Reconfiguration of Software Systems in a Categorical Setting -- Characterizing Locality (Encapsulation) with Bisimulation -- Justification Logic and History Based Computation -- Algorithms and Types -- A Class of Greedy Algorithms and Its Relation to Greedoids -- On Arithmetic Computations with Hereditarily Finite Sets, Functions and Types -- A Modality for Safe Resource Sharing and Code Reentrancy.

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Sommario/riassunto

The now well-established series of International Colloquia on Theoretical Aspects of Computing (ICTAC) brings together practitioners and researchers from academia, industry and government to present research results, and exchange experience and ideas. Beyond these scholarly goals, another main purpose is to promote cooperation in research and education between participants and their institutions, from developing and industrial countries. This volume contains the papers presented at ICTAC 2010. It was held during September 1-3 in the city of Natal, Rio Grande do Norte, Brazil. There were 68 submissions by authors from 24 countries all around the world. Each submission was reviewed by at least three, and on average four, Program Committee members and external reviewers. After extensive discussions, they decided to accept the 23 (regular) papers presented here. Authors of a selection of these papers were invited to submit an extended version of their work to a special issue of the Theoretical Computer Science journal. Seven of the papers were part of a special track including one paper on "Formal Aspects of Software Testing", and six on the "Grand Challenge in Verified Software." The special track was jointly organized by Marie-Claude Gaudel, from the Université de Paris-Sud, and Jim Woodcock, from the University of York.

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