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Soggetti	Computer science Machine theory Compilers (Computer programs) Computer science - Mathematics Artificial intelligence Computer Science Logic and Foundations of Programming Formal Languages and Automata Theory Compilers and Interpreters Symbolic and Algebraic Manipulation Artificial Intelligence Computer Science
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Nota di contenuto	Invited Lectures -- n(Sn) in Homotopy Type Theory -- Session 1: Code Verification -- Mostly Sound Type System Improves a Foundational Program Verifier -- Computational Verification of Network Programs in Coq -- Aliasing Restrictions of C11 Formalized in Coq -- Session 2: Elegant Proofs -- Proof Pearl: A Verified Bignum Implementation in x86-64 Machine Code -- A Constructive Theory of Regular Languages in Coq -- Certified Parsing of Regular Languages -- Session 3: Proof Libraries -- Nonfree Datatypes in Isabelle/HOL: Animating a Many-Sorted Metatheory -- Lifting and Transfer: A Modular Design for Quotients in Isabelle/HOL -- Refinements for Free! -- Session 4: Mathematics -- A Formal Proof of Borodin-Trakhtenbrot’s

Gap Theorem -- Certified Kruskal’s Tree Theorem -- Extracting Proofs from Tabled Proof Search -- Session 5: Certified Transformations -- Formalizing the SAFECode Type System -- Certifiably Sound Parallelizing Transformations -- Programming Type-Safe Transformations Using Higher-Order Abstract Syntax -- Session 6: Security -- Formalizing Probabilistic Noninterference -- Machine Assisted Proof of ARMv7 Instruction Level Isolation Properties -- A Formal Model and Correctness Proof for an Access Control Policy Framework.

Sommario/riassunto

This book constitutes the refereed proceedings of the Third International Conference on Certified Programs and Proofs, CPP 2013, colocated with APLAS 2013 held in Melbourne, Australia, in December 2013. The 18 revised regular papers presented together with 1 invited lecture were carefully reviewed and selected from 39 submissions. The papers are organized in topical sections on code verification, elegant proofs, proof libraries, certified transformations and security.