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Autore	Burkart Olaf
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Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 947
Disciplina	004.2/0151
Soggetti	Software engineering Computers Computer programming Algorithms Computer logic Software Engineering/Programming and Operating Systems Theory of Computation Programming Techniques Software Engineering Algorithm Analysis and Problem Complexity Logics and Meanings of Programs
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Nota di contenuto	Towards automatic parallelization of logic programs -- Functional Algorithm Design -- Mathematics of software engineering -- Program construction in intuitionistic Type Theory -- Computer-aided computing -- Derivation of parallel algorithms from functional specifications to CSP processes -- Architecture independent massive parallelization of divide-and-conquer algorithms -- Exploring summation and product operators in the refinement calculus -- An action system specification of the caltech asynchronous microprocessor -- Formal derivation of CSP programs from temporal specifications -- A compositional proof system for asynchronously communicating processes -- A graphical calculus -- A simple, efficient, and flexible

implementation of flexible arrays -- Induction and recursion on datatypes -- Program construction by parts -- An initial-algebra approach to directed acyclic graphs -- Algebraic proof assistants in HOL -- Angelic termination in Dijkstra's calculus -- Extracting programs with exceptions in an impredicative type system -- Synthesizing proofs from programs in the Calculus of Inductive Constructions -- A general scheme for breadth-first graph traversal -- Specware: Formal support for composing software -- A refinement relation supporting the transition from unbounded to bounded communication buffers -- ImpUNITY: UNITY with procedures and local variables.

Sommario/riassunto

This volume constitutes the proceedings of the Third International Conference on the Mathematics of Program Construction, held at Kloster Irsee, Germany in July 1995. Besides five invited lectures by distinguished researchers there are presented 19 full revised papers selected from a total of 58 submissions. The general theme is the use of crisp, clear mathematics in the discovery and design of algorithms and in the development of corresponding software and hardware; among the topics addressed are program transformation, program analysis, program verification, as well as convincing case studies.
