Record Nr. UNINA9910144156303321 Domain-Specific Program Generation: International Seminar, Dagstuhl **Titolo** Castle, Germany, March 23-28, 2003, Revised Papers / / edited by Christian Lengauer, Don Batory, Charles Consel, Martin Odersky Berlin, Heidelberg:,: Springer Berlin Heidelberg:,: Imprint: Springer, Pubbl/distr/stampa 2004 **ISBN** 1-280-30772-2 9786610307722 3-540-25935-X [1st ed. 2004.] Edizione 1 online resource (XII, 332 p.) Descrizione fisica Lecture Notes in Computer Science, , 0302-9743 ; ; 3016 Collana Disciplina 005.13 Soggetti Software engineering Computer programming Programming languages (Electronic computers) Software Engineering/Programming and Operating Systems **Programming Techniques** Software Engineering Programming Languages, Compilers, Interpreters Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Bibliographic Level Mode of Issuance: Monograph Nota di bibliografia Includes bibliographical references at the end of each chapters and index. Surveys -- The Road to Utopia: A Future for Generative Programming Nota di contenuto -- From a Program Family to a Domain-Specific Language -- A Gentle Introduction to Multi-stage Programming -- DSL Implementation in MetaOCaml, Template Haskell, and C++ -- Program Optimization in the Domain of High-Performance Parallelism -- A Personal Outlook on Generator Research -- Domain-Specific Languages -- Generic Parallel Programming Using C++ Templates and Skeletons -- The Design of Hume: A High-Level Language for the Real-Time Embedded Systems Domain -- Embedding a Hardware Description Language in Template Haskell -- A DSL Paradigm for Domains of Services: A Study of Communication Services -- PiLib: A Hosted Language for Pi-Calculus

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Sommario/riassunto

Program generation holds the promise of helping to bridge the gap between application-level problem solutions and efficient implementations at the level of today's source programs as written in C or Java. Thus, program generation can substantially contribute to reducing production cost and time-to-market in future software production, while improving the quality and stability of the product. This book is about domain-specific program generation; it is the outcome of a Dagstuhl seminar on the topic held in March 2003. After an introductory preface by the volume editors, the 18 carefully reviewed revised full papers presented are organized into topical sections on - surveys of domain-specific programming technologies - domain-specific programming languages - tool support for program generation - domain-specific techniques for program optimization.