1.	Record Nr.	UNISA996466091203316
	Titolo	Formal Methods for Components and Objects [[electronic resource]] : 4th International Symposium, FMCO 2005, Amsterdam, The Netherlands, November 1-4, 2005, Revised Lectures / / edited by Frank S. de Boer, Marcello M. Bonsangue, Susanne Graf, Willem-Paul de Roever
	Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2006
	ISBN	3-540-36750-0
	Edizione	[1st ed. 2006.]
	Descrizione fisica	1 online resource (VIII, 429 p.)
	Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 4111
	Disciplina	005.13/1
	Soggetti	Software engineering Computer logic Computers Programming languages (Electronic computers) Operating systems (Computers) Software Engineering Logics and Meanings of Programs Theory of Computation Programming Languages, Compilers, Interpreters Operating Systems
	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 and index.
	Nota di contenuto	Component and Service Oriented Computing -- A Software Component Model and Its Preliminary Formalisation -- Synchronised Hyperedge Replacement as a Model for Service Oriented Computing -- System Design -- Control of Modular and Distributed Discrete-Event Systems -- Model-Based Security Engineering with UML: Introducing Security Aspects -- The Pragmatics of STAIRS -- Tools -- Smallfoot: Modular Automatic Assertion Checking with Separation Logic -- Orion: High-Precision Methods for Static Error Analysis of C and C++ Programs -- Algebraic Methods -- Beyond Bisimulation: The "up-to" Techniques -- Separation Results Via Leader Election Problems -- Divide and

Congruence: From Decomposition of Modalities to Preservation of Branching Bisimulation -- Model Checking -- Abstraction and Refinement in Model Checking -- Program Compatibility Approaches -- Cluster-Based LTL Model Checking of Large Systems -- Safety and Liveness in Concurrent Pointer Programs -- Assertional Methods -- Modular Specification of Encapsulated Object-Oriented Components -- Beyond Assertions: Advanced Specification and Verification with JML and ESC/Java2 -- Boogie: A Modular Reusable Verifier for Object-Oriented Programs -- Quantitative Analysis -- On a Probabilistic Chemical Abstract Machine and the Expressiveness of Linda Languages -- Partial Order Reduction for Markov Decision Processes: A Survey.

Sommario/riassunto	Formal methods have been applied successfully to the verification of medium-sized programs in protocol and hardware design. However, their application to the development of large systems requires more emphasis on specification, modelling and validation techniques supporting the concepts of reusability and modifiability, and their implementation in new extensions of existing programming languages. This book presents 19 revised invited keynote lectures and revised tutorial lectures given by top-researchers at the 4th International Symposium on Formal Methods for Components and Objects, FMCO 2005, held in Amsterdam, Netherlands, in November 2005. The book provides a unique combination of ideas on software engineering and formal methods that reflect the current interest in the application or development of formal methods for large scale software systems such as component-based systems and object systems. The papers are organized in topical sections on component and service oriented computing, system design, tools, algebraic methods, model checking, assertional methods, quantitative analysis.