Record Nr. UNINA9910484972603321 Formal Methods and Testing: An Outcome of the FORTEST Network. **Titolo** Revised Selected Papers // edited by Robert M. Hierons, Jonathan P. Bowen, Mark Harman Berlin, Heidelberg:,: Springer Berlin Heidelberg:,: Imprint: Springer, Pubbl/distr/stampa **ISBN** 3-540-78917-0 Edizione [1st ed. 2008.] 1 online resource (XIII, 367 p.) Descrizione fisica Programming and Software Engineering;; 4949 Collana 005.1/4 Disciplina Soggetti Software engineering Programming languages (Electronic computers) Computer logic Management information systems Computer science Software Engineering/Programming and Operating Systems Software Engineering Programming Languages, Compilers, Interpreters Logics and Meanings of Programs Management of Computing and Information Systems Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Bibliographic Level Mode of Issuance: Monograph Note generali Nota di bibliografia Includes bibliographical references and index. Model Based Testing with Labelled Transition Systems -- Model-Based Nota di contenuto Testing of Object-Oriented Reactive Systems with Spec Explorer --Testing Real-Time Systems Using UPPAAL -- Coverage Criteria for State Based Specifications -- Testing in the Distributed Test Architecture --Testing from X-Machine Specifications -- Testing Data Types Implementations from Algebraic Specifications -- From MC/DC to RC/DC: Formalization and Analysis of Control-Flow Testing Criteria --Comparing the Effectiveness of Testing Techniques -- The Test Technology TTCN-3 -- Testability Transformation - Program Transformation to Improve Testability -- Modelling the Effects of Combining Diverse Software Fault Detection Techniques.

Sommario/riassunto

This book constitutes the thoroughly refereed and peer-reviewed outcome of the Formal Methods and Testing (FORTEST) network - formed as a network established under UK EPSRC funding that investigated the relationships between formal (and semi-formal) methods and software testing - now being a subject group of two BCS Special Interest Groups: Formal Aspects of Computing Science (BCS FACS) and Special Interest Group in Software Testing (BCS SIGIST). Each of the 12 chapters in this book describes a way in which the study of formal methods and software testing can be combined in a manner that brings the benefits of formal methods (e.g., precision, clarity, provability) with the advantages of testing (e.g., scalability, generality, applicability).