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Descrizione fisica	1 online resource (XI, 325 p. 141 illus. in color.)
Collana	Programming and Software Engineering ; ; 9506
Disciplina	005.1
Soggetti	Software engineering Computer logic Programming languages (Electronic computers) Computer simulation Special purpose computers Software Engineering Logics and Meanings of Programs Programming Languages, Compilers, Interpreters Simulation and Modeling Special Purpose and Application-Based Systems
Lingua di pubblicazione	Inglese
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Note generali	Includes index.
Nota di contenuto	(In-)formal methods: The Lost Art -- Program refinement, perfect secrecy and information flow -- The Z Notation: Whence the Cause and Whither the Course? -- Model-Driven Design of Object and Component Systems -- Cyber-Physical Systems Engineering -- Combining Formal and Informal Methods in the Design of Spacecrafts.
Sommario/riassunto	The courses of SETSS 2014 aim to improve the understanding of the relation between theory and practice in software engineering, to contribute to narrowing the gap between them. This volume contains the lecture notes of the five courses and materials of one seminar. The common themes of the courses include the design and use of theories, techniques and tools for software specification and modeling, analysis and verification. The courses cover sequential programming,

component- and object software, hybrid systems and cyber-physical systems with challenges of termination, security, safety, security, fault-tolerance and real-time requirements. The techniques include model checking, correctness by construction through refinement and model transformations, synthesis and computer algebra.