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KEY=PROPERTIES - MICHAELA DANIELA

Modal and Temporal Properties of Processes *Springer Science & Business Media* In recent years, model checking has become an essential technique for the formal verification of systems. With a clarity of presentation and its many illuminating examples, this book makes this technical material easy to grasp. It is perfectly suited for an advanced undergraduate or graduate class in formal verification and will serve as a valuable resource to practitioners of formal methods. **Verification of Temporal Properties of Processes in a Setting with Data Abstract:** "We define a value-based modal μ -calculus, built from first-order formulas, modalities, and fixed point operators parameterized by data variables, which allows to express temporal properties involving data. We interpret this logic over μ CRL terms defined by linear process equations. The satisfaction of a temporal formula by a μ CRL term is translated to the satisfaction of a first-order formula containing parameterized fixed point operators. We provide proof rules for these fixed point operators and show their applicability on various examples." **A Multiprocess Network Logic with Temporal and Spatial Modalities. Revised** We introduce a modal logic which can be used to formally reason about synchronous fixed connection multiprocess networks such as VLSI. Our logic has both temporal and spatial modal operators. The various temporal modal operators allow us to relate properties of the current state of a given process with properties of succeeding states of the given process. Also, the spatial modal operators allow us to relate properties of the current

state of a given process with properties of the current state of neighboring processes. Many interesting properties for multiprocessor networks can be elegantly expressed in our logic. We give examples of the diverse applications of our logic to packet routing firing squad problems, and systolic algorithms. (Author). *Concurrency Theory, Language, and Architecture : UK/Japan Workshop on Concurrency, Oxford, UK, September 25-27, 1989 : Proceedings Springer Science & Business Media* *Proceedings Formal Methods for Components and Objects Third International Symposium, FMCO 2004, Leiden, The Netherlands, November 2-5, 2004, Revised Lectures Springer* 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 revised tutorial lectures given by invited speakers at the Third International Symposium on Formal Methods for Components and Objects, FMCO 2004, held in Leiden, The Netherlands, in November 2004. The 14 revised lectures by leading researchers present a comprehensive account of the potential of formal methods applied to large and complex software systems such as component-based systems and object systems. The book provides an unique combination of ideas on software engineering and formal methods that reflect the expanding body of knowledge on modern software systems. *Formal Techniques for Networked and Distributed Systems - FORTE 2006 26th IFIP WG 6.1 International Conference, Paris, France, September 26-29, 2006, Proceedings Springer* This book constitutes the refereed proceedings of the 26th IFIP WG 6.1 International Conference on Formal Techniques for Networked and Distributed Systems, FORTE 2006, held in Paris, France, in September 2006. The 26 revised full papers and 4 short papers presented together with 3 invited lectures were carefully reviewed and selected from 177 submissions. The papers focus on the construction of middleware and services using formalised and verified approaches. *Proof, Language, and Interaction Essays in Honour of Robin Milner MIT Press* This collection of essays reflects the breadth of research in computer science. Following a biography of Robin Milner it contains sections on semantic foundations; programming logic; programming languages; concurrency; and mobility. *Automated Reasoning with Analytic Tableaux and Related Methods International Conference, TABLEAUX'99, Saratoga Springs, NY, USA, June 7-11, 1999, Proceedings Springer* This book constitutes the refereed proceedings of the International Conference on Analytic Tableaux and Related Methods, TABLEAUX'99, held in Saratoga Springs, NY, USA, in June 1999. The volume presents 18 revised full papers and three system descriptions selected from 41 submissions. Also included are system comparisons and abstracts of an invited paper and of two tutorials. All current issues surrounding mechanization of reasoning with tableaux and similar methods are addressed - ranging from theoretical foundations to

implementation and systems development and applications, as well as covering a broad variety of logic calculi. As application areas, formal verification of software and computer systems, deductive databases, knowledge representation, and systems diagnosis are covered. **Parallel Computing Technologies 6th International Conference, PaCT 2001, Novosibirsk, Russia, September 3-7, 2001 Proceedings** *Springer Science & Business Media* This book constitutes the refereed proceedings of the 6th International Conference on Parallel Computing Technologies, PaCT 2001, held in Novosibirsk, Russia in September 2001. The 36 revised full papers and 13 posters presented together with 4 invited papers were carefully reviewed and selected from 81 submissions. The papers presented span the whole range of parallel processing from theory and software through architecture and applications. Among the topics addressed are shared memory systems, formal methods, networks of processes, cellular automata, mobile data access systems, Java programming, neuro-cluster computing, network clusters, load balancing, etc. **Tools and Algorithms for the Construction and Analysis of Systems 8th International Conference, TACAS 2002, Held as Part of the Joint European Conferences on Theory and Practice of Software, ETAPS 2002, Grenoble, France, April 8-12, 2002. Proceedings** *Springer* ETAPS 2002 was the 7th instance of the European Joint Conferences on Theory and Practice of Software. ETAPS is an annual federated conference that was established in 1998 by combining a number of existing and new conferences. This year it comprised 5 conferences (FOSSACS, FASE, ESOP, CC, TACAS), 13 satellite workshops (ACL2, AGT, CMCS, COCV, DCC, INT, LDTA, SC, SFEDL, SLAP, SPIN, TPTS, and VISS), 8 invited lectures (not including those specific to the satellite events), and several tutorials. The events that comprise ETAPS address various aspects of the system development process, including specification, design, implementation, analysis, and improvement. The languages, methodologies, and tools which support these activities are all well within its scope. Different blends of theory and practice are represented, with an inclination towards theory with a practical motivation on one hand and soundly-based practice on the other. Many of the issues involved in software design apply to systems in general, including hardware systems, and the emphasis on software is not intended to be exclusive. **Handbook of Process Algebra** *Elsevier* Process Algebra is a formal description technique for complex computer systems, especially those involving communicating, concurrently executing components. It is a subject that concurrently touches many topic areas of computer science and discrete math, including system design notations, logic, concurrency theory, specification and verification, operational semantics, algorithms, complexity theory, and, of course, algebra. This Handbook documents the fate of process algebra since its inception in the late 1970's to the present. It is intended to serve as a reference source for researchers, students, and system designers and engineers interested in either the theory of process algebra or in learning what process algebra brings to the table as a formal system description and verification

technique. The Handbook is divided into six parts spanning a total of 19 self-contained Chapters. The organization is as follows. Part 1, consisting of four chapters, covers a broad swath of the basic theory of process algebra. Part 2 contains two chapters devoted to the sub-specialization of process algebra known as finite-state processes, while the three chapters of Part 3 look at infinite-state processes, value-passing processes and mobile processes in particular. Part 4, also three chapters in length, explores several extensions to process algebra including real-time, probability and priority. The four chapters of Part 5 examine non-interleaving process algebras, while Part 6's three chapters address process-algebra tools and applications. *A Rigorous Semantics for BPMN 2.0 Process Diagrams Springer* This book provides the most complete formal specification of the semantics of the Business Process Model and Notation 2.0 standard (BPMN) available to date, in a style that is easily understandable for a wide range of readers - not only for experts in formal methods, but e.g. also for developers of modeling tools, software architects, or graduate students specializing in business process management. BPMN - issued by the Object Management Group - is a widely used standard for business process modeling. However, major drawbacks of BPMN include its limited support for organizational modeling, its only implicit expression of modalities, and its lack of integrated user interaction and data modeling. Further, in many cases the syntactical and, in particular, semantic definitions of BPMN are inaccurate, incomplete or inconsistent. The book addresses concrete issues concerning the execution semantics of business processes and provides a formal definition of BPMN process diagrams, which can serve as a sound basis for further extensions, i.e., in the form of horizontal refinements of the core language. To this end, the Abstract State Machine (ASMs) method is used to formalize the semantics of BPMN. ASMs have demonstrated their value in various domains, e.g. specifying the semantics of programming or modeling languages, verifying the specification of the Java Virtual Machine, or formalizing the ITIL change management process. This kind of improvement promotes more consistency in the interpretation of comprehensive models, as well as real exchangeability of models between different tools. In the outlook at the end of the book, the authors conclude with proposing extensions that address actor modeling (including an intuitive way to denote permissions and obligations), integration of user-centric views, a refined communication concept, and data integration. *Semantics of Systems of Concurrent Processes Proceedings of the LITP Spring School on Theoretical Computer Science, La Roche Posay, France, April 23-27, 1990 Springer Science & Business Media* This volume contains the proceedings of the 1990 Spring School of Theoretical Computer Science, devoted to the semantics of concurrency. The papers are of two kinds: - surveys and tutorials introducing the subject to novices and students and giving updates of the state of the art, - research papers presenting recent achievements in the semantics of concurrency. The contributions explicate the connections, similarities and differences between various approaches to

the semantics of concurrency, such as pomsets and metric semantics, event structures, synchronization trees, fixpoints and languages, traces, CCS and Petri nets, and categorical models. They also cover and compare the various notions of observation and bisimulation equivalences, logics for concurrency, and applications to distributed systems. **Automated Reasoning with Analytic Tableaux and Related Methods International Conference, TABLEUX 2005, Koblenz, Germany, September 14-17, 2005, Proceedings** *Springer* This volume contains the research papers presented at the International Conference on Automated Reasoning with Analytic Tableaux and Related Methods (TABLEUX 2005) held September 14 -17, 2005 in Koblenz, Germany. **Automatic Verification of Sequential Infinite-State Processes** *Springer* A common approach in software engineering is to apply during the design phase a variety of structured techniques like top-down design, decomposition and abstraction, while only subsequently, in the implementation phase, is the design tested to ensure reliability. But this approach neglects that central aspects of software design and program development have a strong formal character which admits tool support for the construction of reliable and correct computer systems based on formal reasoning. This monograph provides much information both for theoreticians interested in algebraic theories, and for software engineers building practically relevant tools. The author presents the theoretical foundations needed for the verification of reactive, sequential infinite-state systems. **FME '93: Industrial-Strength Formal Methods First International Symposium of Formal Methods Europe, Odense, Denmark, April 19-23, 1993. Proceedings** *Springer Science & Business Media* The last few years have borne witness to a remarkable diversity of formal methods, with applications to sequential and concurrent software, to real-time and reactive systems, and to hardware design. In that time, many theoretical problems have been tackled and solved, and many continue to be worked upon. Yet it is by the suitability of their industrial application and the extent of their usage that formal methods will ultimately be judged. This volume presents the proceedings of the first international symposium of Formal Methods Europe, FME'93. The symposium focuses on the application of industrial-strength formal methods. Authors address the difficulties of scaling their techniques up to industrial-sized problems, and their suitability in the workplace, and discuss techniques that are formal (that is, they have a mathematical basis) and that are industrially applicable. The volume has four parts: - Invited lectures, containing a lecture by Cliff B. Jones and a lecture by Antonio Cau and Willem-Paul de Roever; - Industrial usage reports, containing 6 reports; - Papers, containing 32 selected and refereed papers; - Tool descriptions, containing 11 descriptions. **Handbook of Modal Logic** *Elsevier* The Handbook of Modal Logic contains 20 articles, which collectively introduce contemporary modal logic, survey current research, and indicate the way in which the field is developing. The articles survey the field from a wide variety of perspectives: the underlying theory is explored in depth, modern computational approaches are treated, and six major applications areas

of modal logic (in Mathematics, Computer Science, Artificial Intelligence, Linguistics, Game Theory, and Philosophy) are surveyed. The book contains both well-written expository articles, suitable for beginners approaching the subject for the first time, and advanced articles, which will help those already familiar with the field to deepen their expertise. Please visit: http://people.uleth.ca/~woods/RedSeriesPromo_WP/PubSLPR.html - Compact modal logic reference - Computational approaches fully discussed - Contemporary applications of modal logic covered in depth Computational Methods in Systems Biology International Conference CMSB 2004, Paris, France, May 26-28, 2004, Revised Selected Papers *Springer* The Computational Methods in Systems Biology (CMSB) workshop series was established in 2003 by Corrado Priami. The purpose of the workshop series is to help catalyze the convergence between computer scientists interested in language design, concurrency theory, software engineering or program verification, and physicists, mathematicians and biologists interested in the systems-level understanding of cellular processes. Systems biology was perceived as being increasingly in search of sophisticated modeling frameworks whether for representing and processing syst- level dynamics or for model analysis, comparison and refinement. One has here a clear-cut case of a must-explore field of application for the formal methods developed in computer science in the last decade. This proceedings consists of papers from the CMSB 2003 workshop. A good third of the 24 papers published here have a distinct formal methods origin; we take this as a confirmation that a synergy is building that will help solidify CMSB as a forum for cross-community exchange, thereby opening new theoretical avenues and making the field less of a potential application and more of a real one. Publication in Springer's new Lecture Notes in Bioinformatics (LNBI) offers particular visibility and impact, which we gratefully acknowledge. Our keynote speakers, Alfonso Valencia and Trey Ideker, gave challenging and somewhat humbling lectures: they made it clear that strong applications to systems biology are still some way ahead. We thank them all the more for accepting the invitation to speak and for the clarity and excitement they brought to the conference. Scientific and Technical Aerospace Reports Introduction to Process Algebra *Springer Science & Business Media* Automated and semi-automated manipulation of so-called labelled transition systems has become an important means in discovering flaws in software and hardware systems. Process algebra has been developed to express such labelled transition systems algebraically, which enhances the ways of manipulation by means of equational logic and term rewriting. The theory of process algebra has developed rapidly over the last twenty years, and verification tools have been developed on the basis of process algebra, often in cooperation with techniques related to model checking. This textbook gives a thorough introduction into the basics of process algebra and its applications. Lévy Processes Theory and Applications *Springer Science & Business Media* A Lévy process is a continuous-time analogue of a random walk, and as such, is at the cradle of modern theories of stochastic processes. Martingales,

Markov processes, and diffusions are extensions and generalizations of these processes. In the past, representatives of the Lévy class were considered most useful for applications to either Brownian motion or the Poisson process. Nowadays the need for modeling jumps, bursts, extremes and other irregular behavior of phenomena in nature and society has led to a renaissance of the theory of general Lévy processes. Researchers and practitioners in fields as diverse as physics, meteorology, statistics, insurance, and finance have rediscovered the simplicity of Lévy processes and their enormous flexibility in modeling tails, dependence and path behavior. This volume, with an excellent introductory preface, describes the state-of-the-art of this rapidly evolving subject with special emphasis on the non-Brownian world. Leading experts present surveys of recent developments, or focus on some most promising applications. Despite its special character, every topic is aimed at the non-specialist, keen on learning about the new exciting face of a rather aged class of processes. An extensive bibliography at the end of each article makes this an invaluable comprehensive reference text. For the researcher and graduate student, every article contains open problems and points out directions for future research. The accessible nature of the work makes this an ideal introductory text for graduate seminars in applied probability, stochastic processes, physics, finance, and telecommunications, and a unique guide to the world of Lévy processes.

Their Footprints Remain Biomedical Beginnings Across the Indo-Tibetan Frontier Amsterdam University Press By the end of the 19th century, British imperial medical officers and Christian medical missionaries had introduced Western medicine to Tibet, Sikkim, and Bhutan. *Their Footprints Remain* uses archival sources, personal letters, diaries, and oral sources in order to tell the fascinating story of how this once-new medical system became imbedded in the Himalayas. Of interest to anyone with an interest in medical history and anthropology, as well as the Himalayan world, this volume not only identifies the individuals involved and describes how they helped to spread this form of imperialist medicine, but also discusses its reception by a local people whose own medical practices were based on an entirely different understanding of the world.

Logic and Automata History and Perspectives Amsterdam University Press Mathematical logic and automata theory are two scientific disciplines with a fundamentally close relationship. The authors of *Logic and Automata* take the occasion of the sixtieth birthday of Wolfgang Thomas to present a tour d'horizon of automata theory and logic. The twenty papers in this volume cover many different facets of logic and automata theory, emphasizing the connections to other disciplines such as games, algorithms, and semigroup theory, as well as discussing current challenges in the field.

Business Process Management Workshops BPM 2011 International Workshops, Clermont-Ferrand, France, August 29, 2011, Revised Selected Papers, Part II Springer LNBIP 99 and LNBIP 100 together constitute the thoroughly refereed proceedings of 12 international workshops held in Clermont-Ferrand, France, in conjunction with the 9th International Conference on Business Process

Management, BPM 2011, in August 2011. The 12 workshops focused on Business Process Design (BPD 2011), Business Process Intelligence (BPI 2011), Business Process Management and Social Software (BPMS2 2011), Cross-Enterprise Collaboration (CEC 2011), Empirical Research in Business Process Management (ER-BPM 2011), Event-Driven Business Process Management (edBPM 2011), Process Model Collections (PMC 2011), Process-Aware Logistics Systems (PALS 2011), Process-Oriented Systems in Healthcare (ProHealth 2011), Reuse in Business Process Management (rBPM 2011), Traceability and Compliance of Semi-Structured Processes (TC4SP 2011), and Workflow Security Audit and Certification (WfSAC 2011). In addition, the proceedings also include the Process Mining Manifesto (as an Open Access Paper), which has been jointly developed by more than 70 scientists, consultants, software vendors, and end-users. LNBIP 100 contains the revised and extended papers from PMC 2011, PALS 2011, ProHealth 2011, rBPM 2011, TC4SP 2011, and WfSAC 2011. Models, Languages, and Tools for Concurrent and Distributed Programming Essays Dedicated to Rocco De Nicola on the Occasion of His 65th Birthday *Springer* This volume was published in honor of Rocco De Nicola's 65th birthday. The Festschrift volume contains 27 papers written by close collaborators and friends of Rocco De Nicola and was presented to Rocco on the 1st of July 2019 during a two-day symposium held in Lucca, Italy. The papers present many research ideas that have been influenced by Rocco's work. They testify his intellectual curiosity, versatility and tireless research activity, and provide an overview of further developments to come. The volume consists of six sections. The first one contains a laudation illustrating the distinguished career and the main scientific contributions by Rocco and a witness of working experiences with Rocco. The remaining five sections comprise scientific papers related to specific research interests of Rocco and are ordered according to his scientific evolution: Observational Semantics; Logics and Types; Coordination Models and Languages; Distributed Systems Modelling; Security. FM 2008: Formal Methods 15th International Symposium on Formal Methods, Turku, Finland, May 26-30, 2008, Proceedings *Springer* This book presents the refereed proceedings of the 15th International Symposium on Formal Methods, FM 2008, held in Turku, Finland in May 2008. The 23 revised full papers presented together with 4 invited contributions and extended abstracts of 5 invited industrial presentations were carefully reviewed and selected from 106 submissions. The papers are organized in topical sections on programming language analysis, verification, real-time and concurrency, grand challenge problems, fm practice, runtime monitoring and analysis, communication, constraint analysis, and design. Algebraic Methodology and Software Technology 10th International Conference, AMAST 2004, Stirling, Scotland, UK, July 12-16, 2004, Proceedings *Springer* This book constitutes the refereed proceedings of the 10th International Conference on Algebraic Methodology and Software Technology, AMAST 2004, held in Stirling, Scotland, UK in July 2004. The 35 revised full papers presented together with abstracts of 5 invited talks and an invited

paper were carefully reviewed and selected from 63 submissions. Among the topics covered are all current issues in formal methods related to algebraic approaches to software engineering including abstract data types, process algebras, algebraic specification, model checking, abstraction, refinement, model checking, state machines, rewriting, Kleene algebra, programming logic, etc. Automata, languages, and programming Application of Artificial Intelligence in Process Control Lecture Notes Erasmus Intensive Course *Elsevier* This book is the result of a united effort of six European universities to create an overall course on the application of artificial intelligence (AI) in process control. The book includes an introduction to key areas including; knowledge representation, expert, logic, fuzzy logic, neural network, and object oriented-based approaches in AI. Part two covers the application to control engineering, part three: Real-Time Issues, part four: CAD Systems and Expert Systems, part five: Intelligent Control and part six: Supervisory Control, Monitoring and Optimization. Theoretical Aspects of Computing - ICTAC 2018 15th International Colloquium, Stellenbosch, South Africa, October 16-19, 2018, Proceedings *Springer* This book constitutes the refereed proceedings of the 15th International Colloquium on Theoretical Aspects of Computing, ICTAC 2018, held in Stellenbosch, South Africa, in October 2018. The 25 revised full papers presented together with two short and two long invited talks were carefully reviewed and selected from 59 submissions. The ICTAC conference aims at bringing together researchers and practitioners from academia, industry and government to present research and exchange ideas and experience addressing challenges in both theoretical aspects of computing and the exploitation of theory through methods and tools for system development. ICTAC also specifically aims to promote research cooperation between developing and industrial countries. From Software Engineering to Formal Methods and Tools, and Back Essays Dedicated to Stefania Gnesi on the Occasion of Her 65th Birthday *Springer Nature* This volume was published in honor of Stefania Gnesi's 65th birthday. The Festschrift volume contains 32 papers written by close collaborators and friends of Stefania and was presented to her on October 8, 2019 one-day colloquium held in Porto, Portugal, The Festschrift consists of eight sections, seven of which reflect the main research areas to which Stefania has contributed. Following a survey of Stefania's legacy in research and a homage by her thesis supervisor, these seven sections are ordered according to Stefania's life cycle in research, from software engineering to formal methods and tools, and back: Software Engineering; Formal Methods and Tools; Requirements Engineering; Natural Language Processing; Software Product Lines; Formal Verification; and Applications. Successful Evolution of Software Systems *Artech House* Annotation Explores the feasibility of using techniques such as program transformation and program abstraction to re-engineer and extend the life of an existing IT system. The authors (De Montfort University) outline a program transformation-based evolution workbench called FermaT, the architecture of the wide spectrum language

(WSL), and a process for evolving object-oriented, real-time, and parallel systems. The final chapter presents six case studies that use FermaT and re-engineering assistant tools to evolve from source code to specifications or to new source code in a different language. Annotation copyrighted by Book News, Inc., Portland, OR

Conceptual Modeling 36th International Conference, ER 2017, Valencia, Spain, November 6-9, 2017, Proceedings *Springer* This book constitutes the refereed proceedings of the 35th International Conference on Conceptual Modeling, ER 2017, held in Valencia, Spain, in November 2017. The 28 full and 10 short papers presented together with 1 full 6 keynotes were carefully reviewed and selected from 153 submissions. This events covers a wide range of following topics: Conceptual Modeling Methodology, Conceptual Modeling and Requirements, Foundations, Conceptual Modeling in Specific Context, Conceptual Modeling and Business Processes, Model Efficiency, and Ontologies. **Mathematical Foundations of Computer Science 2008 33rd International Symposium, MFCS 2008, Torun, Poland, August 25-29, 2008, Proceedings** *Springer Science & Business Media* This book constitutes the refereed proceedings of the 33rd International Symposium on Mathematical Foundations of Computer Science, MFCS 2008, held in Torun, Poland, in August 2008. The 45 revised full papers presented together with 5 invited lectures were carefully reviewed and selected from 119 submissions. All current aspects in theoretical computer science and its mathematical foundations are addressed, ranging from algorithmic game theory, algorithms and data structures, artificial intelligence, automata and formal languages, bioinformatics, complexity, concurrency and petrinets, cryptography and security, logic and formal specifications, models of computations, parallel and distributed computing, semantics and verification. **Process and Analysis Whitehead, Hartshorne, and the Analytic Tradition** *State University of New York Press* Leading thinkers from both traditions explore common philosophical topics. **Inter-area Oscillations in Power Systems A Nonlinear and Nonstationary Perspective** *Springer Science & Business Media* The study of complex dynamic processes governed by nonlinear and nonstationary characteristics is a problem of great importance in the analysis and control of power system oscillatory behavior. Power system dynamic processes are highly random, nonlinear to some extent, and intrinsically nonstationary even over short time intervals as in the case of severe transient oscillations in which switching events and control actions interact in a complex manner. Phenomena observed in power system oscillatory dynamics are diverse and complex. Measured ambient data are known to exhibit noisy, nonstationary fluctuations resulting primarily from small magnitude, random changes in load, driven by low-scale motions or nonlinear trends originating from slow control actions or changes in operating conditions. Forced oscillations resulting from major cascading events, on the other hand, may contain motions with a broad range of scales and can be highly nonlinear and time-varying. Prediction of temporal dynamics, with the ultimate application to real-time system monitoring,

protection and control, remains a major research challenge due to the complexity of the driving dynamic and control processes operating on various temporal scales that can become dynamically involved. An understanding of system dynamics is critical for reliable inference of the underlying mechanisms in the observed oscillations and is needed for the development of effective wide-area measurement and control systems, and for improved operational reliability.

Distributed Computing and Internet Technology 16th International Conference, ICDCIT 2020, Bhubaneswar, India, January 9-12, 2020, Proceedings *Springer Nature* This book constitutes the proceedings of the 16th International Conference on Distributed Computing and Internet Technology, ICDCIT 2020, held in Bhubaneswar, India, in January 2020. The 20 full and 3 short papers presented in this volume were carefully reviewed and selected from 110 submissions. In addition, the book included 6 invited papers. The contributions were organized in topical sections named: invited talks; concurrent and distributed systems modelling and verification; cloud and grid computing; social networks, machine learning and mobile networks; data processing and blockchain technology; and short papers.

Algebraic Methodology and Software Technology 7th International Conference, AMAST'98, Amazonia, Brazil, January 4-8, 1999, Proceedings *Springer* AMAST's goal is to advance awareness of algebraic and logical methodology as part of the fundamental basis of software technology. Ten years and seven conferences after the start of the AMAST movement, I believe we are attaining this. The movement has propagated throughout the world, assembling many enthusiastic specialists who have participated not only in the conferences, which are now annual, but also in the innumerable other activities that AMAST promotes and supports. We are now facing the Seventh International Conference on Algebraic Methodology and Software Technology (AMAST'98). The previous meetings were held in Iowa City, USA (1989 and 1991), in Enschede, The Netherlands (1993), in Montreal, Canada (1995), in Munich, Germany (1996), and in Sydney, Australia (1997). This time it is Brazil's turn, in a very special part of this colorful country - Amazonia. Thus, "if we have done more it is by standing on the shoulders of giants." The effort started by Teodor Rus, Arthur Fleck, and William A. Kirk at AMAST'89 was consolidated in AMAST'91 by Teodor Rus, Maurice Nivat, Charles Rattray, and Giuseppe Scollo. Then came modular construction of the building, wonderfully carried out by Giuseppe Scollo, Vangalur Alagar, Martin Wirsing, and Michael Johnson, as Program Chairs of the AMAST conferences held between 1993 and 1997.

Logic Colloquium '96 *Cambridge University Press* Since their inception, the Perspectives in Logic and Lecture Notes in Logic series have published seminal works by leading logicians. Many of the original books in the series have been unavailable for years, but they are now in print once again. This volume, the twelfth publication in the Lecture Notes in Logic series, collects the proceedings of the European Summer Meeting of the Association of Symbolic Logic, held at the University of the Basque Country, San Sebastian in July 1996. The main topics were model

theory, proof theory, recursion and complexity theory, models of arithmetic, logic for artificial intelligence, formal semantics of natural language, and philosophy of contemporary logic. The volume includes eleven papers from pre-eminent researchers in mathematical logic. **Process Algebra for Parallel and Distributed Processing** *CRC Press Collects the Latest Research Involving the Application of Process Algebra to Computing Exploring state-of-the-art applications*, **Process Algebra for Parallel and Distributed Processing** shows how one formal method of reasoning—process algebra—has become a powerful tool for solving design and implementation challenges of concurrent systems. **Parallel Programming** Divided into three parts, the book begins by parallelizing an algorithm for the Cell Broadband Engine processor of IBM, Sony, and Toshiba. It also develops a runtime environment that can be ported to different parallel platforms and describes the formal model of action systems. **Distributed Systems** The next part presents a process algebra (mCRL2) that targets distributed applications, looks at how to turn prose descriptions into unambiguous specifications, extends pi-calculus to create a service-oriented mobility abstract machine, and introduces the Channel Ambient Machine for mobile applications. **Embedded Systems** The final section combines state-based Z with the event-based process algebra CSP in a formal methodology called Circus. It also develops a pair of process algebras (PARS) to address the problem of scheduling in real-time embedded systems and emphasizes the reuse of concurrent artifacts across different hardware platforms. Highlighting recent research work, this volume addresses multicore programming problems and the evolution of the growing body of concurrency-enabled languages. It proposes solutions to the problems of designing and implementing today's concurrency-constrained multicore processor and cloud architectures.