

Corso Di Elettronica Torino

This book constitutes the refereed proceedings of the 20th International Conference on Analytical and Stochastic Modelling and Applications, ASMTA 2013, held in Ghent, Belgium, in July 2013. The 32 papers presented were carefully reviewed and selected from numerous submissions. The focus of the papers is on the following application topics: complex systems; computer and information systems; communication systems and networks; wireless and mobile systems and networks; peer-to-peer application and services; embedded systems and sensor networks; workload modelling and characterization; road traffic and transportation; social networks; measurements and hybrid techniques; modeling of virtualization; energy-aware optimization; stochastic modeling for systems biology; biologically inspired network design.

This book reports the proceedings of WIRN09, the 19th Italian Workshop of the Italian Society for Neural Networks (SIREN). Neural networks explore thought mechanisms that efficient computational tools and a representative physics of our brain share together and that ultimately produce the loops of our thoughts. The general approach is to see how these loops run and which tracks they leave.

This volume contains the proceedings of the 19th annual International Conference on Application and Theory of Petri Nets. The aim of the Petri net conference is to create a forum for the dissemination of the latest results in the application and theory of Petri nets. It always takes place in the last week of June. Typically there are 150 - 200 participants. About one third of these come from industry while the rest are from universities and research institutions. The conferences and a number of other activities are coordinated by a steering committee with the following members: G. Balbo (Italy), J. Billington (Australia), G. DeMichelis (Italy), C. Girault (France), K. Jensen (Denmark), S. Kumagai (Japan), T. Murata (USA), C. A. Petri (Germany; honorary member), W. Reisig (Germany), G. Roucairol (France), G. Rozenberg (The Netherlands; chairman), M. Silva (Spain). The 19th conference has been organized for the first time in Portugal, by the Department of Electrical Engineering of the Faculty of Sciences and Technology of the New University of Lisbon, together with the Center for Intelligent Robotics of UNINOVA. It takes place in Lisbon at the same time as EXPO'98, the last world exhibition of the 20th century.

Recent years have witnessed tremendous growth in the population of mobile users demanding high performance, reliability and quality-of-service (QoS). Wireless networks are undergoing rapid developments and dramatic changes in the underlying technologies, in order to cope with the difficulties posed by the scarce wireless resource as well as keep up with the increasing day-to-day demand for cost-effective service of multimedia applications. Predicting and optimising the performance and QoS of wireless networks using analytical modelling, simulation experiments, monitoring and testbed-based measurements are crucial to the proper design, tuning, resource management and capacity planning of such networks. This book is dedicated to review important developments and results, explore recent state-of-the-art research and discuss new strategies for performance modelling, analysis and enhancement of wireless networks. The objective is to make analytical modelling, simulation and measurement tools, and innovative performance evaluation methodology possible and understandable to a wider audience.

This book provides a cutting-edge research overview on the latest developments in the field of Optics and Photonics. All chapters are authored by the pioneers in their field and will cover the developments in Quantum Photonics, Optical properties of 2D Materials, Optical Sensors, Organic Opto-electronics, Nanophotonics, Metamaterials, Plasmonics, Quantum Cascade lasers, LEDs, Biophotonics and biomedical photonics and spectroscopy.

This volume contains the collected papers of the NATO Conference on Neurocomputing, held in Les Arcs in February 1989. For many of us, this conference was reminiscent of another NATO Conference, in 1985, on Disordered Systems [1], which was the first conference on neural nets to be held in France. To some of the participants that conference opened, in a way, the field of neurocomputing (somewhat exotic at that time!) and also allowed for many future fruitful contacts. Since then, the field of neurocomputing has very much evolved and its audience has increased so widely that meetings in the US have often gathered more than 2000 participants. However, the NATO workshops have a distinct atmosphere of free discussions and time for exchange, and so, in 1988, we decided to go for another session. This was an occasion for me and some of the early birds of the 1985 conference to realize how much, and how little too, the field had matured.

The continuous development of computer technology supported by the VLSI revolution stimulated the research in the field of multiprocessors systems. The main motivation for the migration of design efforts from conventional architectures towards multiprocessor ones is the possibility to obtain a significant processing power together with the improvement of price/performance, reliability and flexibility figures. Currently, such systems are moving from research laboratories to real field applications. Future technological advances and new generations of components are likely to further enhance this trend. This book is intended to provide basic concepts and design methodologies for engineers and researchers involved in the development of multiprocessor systems and/or of applications based on multiprocessor architectures. In addition the book can be a source of material for computer architecture courses at graduate level. A preliminary knowledge of computer architecture and logical design has been assumed in writing this book. Not all the problems related with the development of multiprocessor systems are addressed in this book. The covered range spans from the electrical and logical design problems, to architectural issues, to design methodologies for system software. Subjects such as software development in a multiprocessor environment or loosely coupled multiprocessor systems are out of the scope of the book. Since the basic elements, processors and memories, are now available as standard integrated circuits, the key design problem is how to put them together in an efficient and reliable way.

Asynchronous Transfer Mode (ATM) networks are widely considered to be the new generation of high speed communication systems both for broadband public information highways and for local and wide area private networks. ATM is designed to integrate existing and future voice, audio, image and data services. Moreover, ATM aims to simplify the complexity of switching and buffer management, to optimise intermediate node processing and buffering and to limit transmission delays. However, to support such diverse services on one integrated communication network, it is most essential, through careful engineering, to achieve a fruitful balance amongst the conflicting

requirements of different quality of service constraints ensuring that one service does not have adverse implications on another. Over recent years there has been a great deal of progress in research and development of ATM technology, but there are still many interesting and important problems to be resolved such as traffic characterisation and control, routing and optimisation, ATM switching techniques and the provision of quality of service. This book presents thirty-two research papers, both from industry and academia, reflecting latest original achievements in the theory and practice of performance modelling of ATM networks worldwide. These papers were selected, subject to peer review, from those submitted as extended and revised versions out of fifty-nine shorter papers presented at the Second IFIP Workshop on "Performance Modelling and Evaluation of ATM Networks" July 4-7, 1994, Bradford University. At least three referees from the scientific committee and externally were involved in the selection of each paper.

Over the last decade of the 20th century, many improvements took place in the field of metrology and fundamental constants. These developments and improvements are discussed in this book. The old caesium SI second definition has found a new realization with the fountain approach, replacing the classical thermal atomic beam. The use of cold atom techniques, slowed down and cooled, has opened a number of unexpected avenues for metrology and fundamental constants, one of these possibilities being the atom interferometry. Another development was the demonstration of the possibility of performing a direct frequency division in the visible, using short femtosecond pulses. Many other developments are also discussed. In this important volume, major events and personalities of 20th century physics are portrayed through recollections and historiographical works of one of the most prominent figures of European science. A former student of Enrico Fermi, and a leading personality of physical research and science policy in postwar Italy, Edoardo Amaldi devoted part of his career to documenting, both as witness and as historian, some significant moments of 20th century science. The focus of the book is on the European scene, ranging from nuclear research in Rome in the 1930s to particle physics at CERN, and includes biographies of physicists such as Ettore Majorana, Bruno Touschek and Fritz Houtermans. Edoardo Amaldi (Carpaneto, 1908 - Roma, 1989) was one of the leading figures in twentieth century Italian science. He was conferred his degree in physics at Rome University in 1929 and played an active role (as a member of the team of young physicists known as "the boys of via Panisperna") in the fundamental research on artificial induced radioactivity and the properties of neutrons, which won the group's leader Enrico Fermi the Nobel Prize for physics in 1938. Following Fermi's departure for the United States in 1938 and the disruption of the original group, Amaldi took upon himself the task of reorganising the research in physics in the difficult situation of post-war Italy. His own research went from nuclear physics to cosmic ray physics, elementary particles and, in later years, gravitational waves. Active research was for him always coupled to a direct involvement as a statesman of science and an organiser: he was the leading figure in the establishment of INFN (National Institute for Nuclear Physics) and has played a major role, as spokesman of the Italian scientific community, in the creation of CERN, the large European laboratory for high energy physics. He also actively supported the formation of a similar trans-national joint venture in space science, which gave birth to the

European Space Agency. In these and several other scientific organisations, he was often entrusted with directive responsibilities. In his later years, he developed a keen interest in the history of his discipline. This gave rise to a rich production of historiographic material, of which a significant sample is collected in this volume. Performance evaluation, reliability, and performability are key factors in the development and improvement of computer systems and computer networks. This volume contains the 25 accepted and invited papers presented at the 7th International Conference on Modelling Techniques and Tools for Computer Performance Evaluation. The papers focus on new techniques and the extension of existing techniques for performance and reliability analysis. Tools to support performance and reliability modelling and measurement in all kinds of applications and environments are presented, and the practicability and generality of the approaches are emphasized. The volume summarizes the state of the art and points out future demands and challenges, and will interest both scientists and practitioners.

Turbo Code Applications: a journey from a paper to realization presents c- temporary applications of turbo codes in thirteen technical chapters. Each chapter focuses on a particular communication technology utilizing turbo codes, and they are written by experts who have been working in related th areas from around the world. This book is published to celebrate the 10 year anniversary of turbo codes invention by Claude Berrou Alain Glavieux and Punya Thitimajshima (1993-2003). As known for more than a decade, turbo code is the astonishing error control coding scheme which its performance closes to the Shannon's limit. It has been honored consequently as one of the seventeen great innovations during the ?rst ?fty years of information theory foundation. With the amazing performance compared to that of other existing codes, turbo codes have been adopted into many communication s- tems and incorporated with various modern industrial standards. Numerous research works have been reported from universities and advance companies worldwide. Evidently, it has successfully revolutionized the digital commu- cations. Turbo code and its successors have been applied in most communications

startingfromthegroundorterrestrialsystemsofdatastorage,ADSLmodem, and ?ber optic communications. Subsequently, it moves up to the air channel applications by employing to wireless communication systems, and then ?ies up to the space by using in digital video broadcasting and satellite com- nications. Undoubtedly, with the excellent error correction potential, it has been selected to support data transmission in space exploring system as well.

This book discusses the latest research ideas with application to frequency standards (e.g. optical clocks) and assesses ideas from previous symposia which have undergone critical analysis. Contents:OPOs and IR StandardsCs Fountains and ComparisonsTrapped Ions IOptical Combs ICPT StandardsPrecision MeasurementsSpace ClocksCold Atom TechniquesMicrowave StandardsCold Atom Optical StandardsTrapped Ions IIStable Lasers and ApplicationsOptical Combs IIIR Standards IICaesium and Rubidium StandardsTrapped Ion Optical StandardsInfrared Standards IIIIodine-Stabilized Laser StandardsPresicion Measurements IICold Atom Optical Standards and TechniquesOptical Frequency Combs and Stable LasersMicrowave Standards and SynthesisSpace Clocks II1.5 ?m Standards Readership: Graduate students and researchers in applied physics, low temperature

physics, optics, condensed matter physics, astrophysics/astronomy/cosmology, quantum physics and earthquake engineering. Keywords:Optical Clocks;Caesium Fountain Clocks;Trapped Ion Standards;Optical Frequency Standards;Microwave Frequency Standards;Cold Atom Standards;Optical Frequency Measurement;Stabilised Lasers;Optical Frequency Combs;Femtosecond Combs;Space Clocks;Precision Measurements and Fundamental Constants;Microwave Frequency Synthesis;Optical Frequency Synthesis;Infra-Red Frequency Standards

This book constitutes the refereed proceedings of the Third International Workshop on Quality of Service in Multiservice IP Networks, QoS-IP 2005, held in Catania, Italy in February 2005. The 50 revised full papers presented were carefully reviewed and selected from around 100 submissions. The papers are organized in topical sections on analytical models, traffic characterization, MPLS failure and restoration, network planning and dimensioning, DiffServ and InfServ, routing, software routers, network architectures for QoS provisioning, multiservice in wireless networks, TCP in special environments, and scheduling.

The safe operation of computer systems, in both their software and hardware continues to be a key issue in many real time applications, when people, environment, investment or goodwill can be at risk. Such applications include the monitoring and control of high energy processes, of nuclear and chemical plants, of factory automation, of transportation systems, or funds transfer and of communication and information systems. This book represents the proceedings of the 1987 Safety and Reliability Society Symposium held in Altrincham, UK, 11-12 November 1987. It is thus part of the series of proceedings for Society Events, which in previous years have not addressed the topic of the Safety and Reliability of Computer Systems. The book is also part of another series of reports, and is closely related to the Elsevier Book "Safety and Reliability of Programmable Electronic Systems" which I edited in 1986, and the series of workshops known as SAFECOMP held in 1979, 1982, 1983, 1985, 1986 which are referenced in some of the papers. The structure of the book represents the structure of the Symposium itself. The session titles, and the papers as selected represent the current practice in many industries. The trend is towards more industrial usage of Formal Methods, and tools to support these methods, whilst continuing to make best use of Software Engineering, Safety and Reliability Assessment, and accumulated experience.

Ultra wideband (UWB) communication systems are characterized by high data rates, low cost, multipath immunity, and low power transmission. In 2002, the Federal Communication Commission (FCC) legalized low power UWB emission between 3.1 GHz and 10.6 GHz for indoor communication devices stimulating rapid development of UWB technologies and applications. The proposed book Novel Applications of the UWB Technologies consists of 5 parts and 20 chapters concerning the general problems of UWB communication systems, and novel UWB applications in personal area networks (PANs), medicine, radars and localization systems. The book will be interesting for engineers and researchers occupied in the field of UWB technology.

This volume can be justified by the following three facts, the need to provide, from time to time, a co-ordinated set of lectures which present the relevant progress in Metrology, the increasing intertwining between Fundamental Physics and the practice of Metrological Measurements, and, third, the flurry of new and unexpected discoveries in this field, with a correlated series of Nobel Prizes bestowed to individuals working in Fundamental Constants research and novel experimental methods. One of the most fascinating and exciting characteristics of metrology is its intimate relationship between fundamental physics and the leading edge of technology which is needed to perform advanced and challenging experiments and measurements, as well as the determination of the values and interrelations between the Fundamental Constants.

In some cases, such as the caesium fountain clocks or the optical frequency standards, the definition of the value of a quantity is, in the laboratory, in the region of 10⁻¹⁶ and experiments are under way to reach 10⁻¹⁸. Many of these results and the avenues leading to further advances are discussed in this volume, along a major step in metrology, expected in the near future, which could change the "old" definition of the kilogram, still based on a mechanical artefact, toward a new definition resting on a fixed value of a fundamental constant.

From the individual to the largest organization, everyone today has to make investments in information technology. Making a good investment that will best satisfy all the necessary decision criteria requires a careful and inclusive analysis. Information Technology Investment: Decision-Making Methodology is a textbook that will provide the understanding of methodologies available to aid in this area of complex, multi-criterion decision-making. It presents a detailed, step-by-step set of procedures and methodologies that readers can use immediately to improve their IT investment decision-making. Unique to this textbook are both financial investment models and more complex decision-making models from management science, so users can extend the analysis benefits to confirm and enhance the ideal IT investment choices. A complimentary copy of the 'Instructor's Manual and Test Bank' and the PowerPoint presentations of the text materials are available for all instructors who adopt this book as a course text. Please send your request to sales@wspc.com.

The 6th ESPRIT Conference is being held in Brussels from the 27th November to the 1st December 1989. Well over 1500 participants from all over Europe are expected to attend the various events during the week. The Conference will offer the opportunity to be updated on the results of ongoing Esprit projects and to develop Europe-wide contacts with colleagues, both within a specific branch of Information Technology and across different branches. The first three days of the week are devoted to presentations of Esprit I projects, structured into plenary and parallel sessions; this year there is special emphasis on panels and workshops where participants can exchange ideas and hold in-depth discussions on specific topics. The different areas of Esprit work are covered: Microelectronics, Information Processing Systems, Office and Business Systems, Computer Integrated Manufacturing, Basic Research and different aspects of the Information Exchange System. During the IT Forum on Thursday 30th November, major European industrial and political decision-makers will address the audience in the morning. In the afternoon, different aspects of Technology Transfer will be discussed with the participation of outside experts, and presentations on the future plans for community R&D in IT will take place.

Amiya Chakravarty is a big name in production manufacturing and Josh Eliashberg is a huge name in marketing. This is one of the first books that examines the interface of Marketing and Production, with the chapters written by well-known people in the field. Hardcover version published in December 2003.

Annotation The three volume set LNAI 6096, LNAI 6097, and LNAI 6098 constitutes the thoroughly refereed conference proceedings of the 23rd International Conference on Industrial Engineering and Other Applications of Applied Intelligent Systems, IEA/AIE 2010, held in Cordoba, Spain, in June 2010. The total of 119 papers selected for the proceedings were carefully reviewed and selected from 297 submissions.

This book discusses the latest research ideas with application to frequency standards (e.g. optical clocks) and assesses ideas from previous symposia which have undergone critical analysis.

This book constitutes the refereed proceedings of the Third International Conference on Computer Aided Learning and Instruction in Science and Engineering, CALICSE '96, held in San Sebastián, Spain in July 1996. The 42 revised full papers presented in the book were selected from a total of 134

submissions; also included are the abstracts of full papers of four invited talks and 17 poster presentations. The papers are organized in topical sections on learning environments: modelling and design, authoring and development tools and techniques, CAL in distance learning, multimedia and hypermedia in CAL, and applications in science and engineering.

Over recent years, a considerable amount of effort has been devoted, both in industry and academia, towards the performance modelling, evaluation and prediction of Asynchronous Transfer Mode (ATM) networks. This book describes recent advances in ATM networks reflecting the state-of-the-art technology and research achievements worldwide. In addition, it provides a fundamental source of reference in the ATM field. Research topics discussed in detail include: Traffic Modelling and Characterisation; Routing; Switch and Multiplexer Models; Call Admission Control (CAC); Congestion Control; Resource Allocation; Quality of Service (QoS); Tools and Techniques. This volume contains recently extended refereed papers of the 5th International Workshop on Performance Modelling and Evaluation of ATM Networks, which was sponsored by the International Federation for Information Processing (IFIP) and held in Ilkley, UK in July 1997. Performance Analysis of ATM Networks continues the tradition established by the first three IFIP volumes on the subject, and it is ideal for personnel in computer/communication industries as well as academic and research staff in computer science and electrical engineering.

Frontiers in Optics and Photonics Walter de Gruyter GmbH & Co KG

Peer-to-peer networking is a disruptive technology for large scale distributed applications that has recently gained wide interest due to the successes of peer-to-peer (P2P) content sharing, media streaming, and telephony applications. There are a large range of other applications under development or being proposed. The underlying architectures share features such as decentralization, sharing of end system resources, autonomy, virtualization, and self-organization. These features constitute the P2P paradigm. This handbook broadly addresses a large cross-section of current research and state-of-the-art reports on the nature of this paradigm from a large number of experts in the field. Several trends in information and network technology such as increased performance and deployment of broadband networking, wireless networking, and mobile devices are synergistic with and reinforcing the capabilities of the P2P paradigm. There is general expectation in the technical community that P2P networking will continue to be an important tool for networked applications and impact the evolution of the Internet. A large amount of research activity has resulted in a relatively short time, and a growing community of researchers has developed. The Handbook of Peer-to-Peer Networking is dedicated to discussions on P2P networks and their applications. This is a comprehensive book on P2P computing.

As is well known, Silicon widely dominates the market of semiconductor devices and circuits, and in particular is well suited for Ultra Large Scale Integration processes. However, a number of III-V compound semiconductor devices and

circuits have recently been built, and the contributions in this volume are devoted to those types of materials, which offer a number of interesting properties. Taking into account the great variety of problems encountered and of their mutual correlations when fabricating a circuit or even a device, most of the aspects of III-V microelectronics, from fundamental physics to modelling and technology, from materials to devices and circuits are reviewed. Containing contributions from European researchers of international repute this volume is the definitive reference source for anyone interested in the latest advances and results of current experimental research in III-V microelectronics.

International ISAAC (International Society for Analysis, its Applications and Computation) Congresses have been held every second year since 1997. The proceedings report on a regular basis on the progresses of the field in recent years, where the most active areas in analysis, its applications and computation are covered. Plenary lectures also highlight recent results. This volume concentrates mainly on partial differential equations, but also includes function spaces, operator theory, integral transforms and equations, potential theory, complex analysis and generalizations, stochastic analysis, inverse problems, homogenization, continuum mechanics, mathematical biology and medicine. With over 350 participants attending the congress, the book comprises 140 papers from 211 authors. The volume also serves for transferring personal information about the ISAAC and its members. This volume includes citations for O. Besov, V. Burenkov and R.P. Gilbert on the occasion of their anniversaries.

FLINS is an acronym for Fuzzy Logic and Intelligent Technologies in Nuclear Science. FLINS 2002 is the fifth in a series of FLINS conferences and covers state-of-the-art research and development in computational intelligence for applied research in general and for nuclear science and engineering in particular. This book outlines the trends in computational intelligence in control, decision-making, and nuclear engineering, and presents the latest developments of computational intelligent systems in applied research and nuclear applications.

International ISAAC (International Society for Analysis, its Applications and Computation) Congresses have been held every second year since 1997. The proceedings report on a regular basis on the progresses of the field in recent years, where the most active areas in analysis, its applications and computation are covered. Plenary lectures also highlight recent results. This volume concentrates mainly on partial differential equations, but also includes function spaces, operator theory, integral transforms and equations, potential theory, complex analysis and generalizations, stochastic analysis, inverse problems, homogenization, continuum mechanics, mathematical biology and medicine. With over 350 participants attending the congress, the book comprises 140 papers from 211 authors. The volume also serves for transferring personal information about the ISAAC and its members. This volume includes citations for O Besov, V Burenkov and R P Gilbert on the occasion of their anniversaries.

Atherosclerosis is a degenerative process affecting blood vessels, which determines narrowing of the lumen, plaque growth, and hardening of the walls. It is a risk factor for cardiovascular diseases. The focus of this book is on the management of the atherosclerotic disease. The coverage of this book spans from histological presentation of the various stages of atherosclerotic lesions to the earliest studies in atherosclerosis therapy, from advanced clinical

diagnosis to monitoring, follow-up, and home-care of the atherosclerotic patient. The book shows well-established diagnostic techniques covering several medical imaging modalities such as Ultrasounds, IVUS, MRI, Computer Tomography, along with new trends in early and advanced atherosclerosis diagnosis (innovative drugs and tissue characterization procedures). Surgical standards will be presented along with innovative experimental trials for the treatment of the atherosclerotic patient. The book will also cover emerging techniques based on molecular imaging and vibro-acoustics.

This book presents a selection of expanded research papers from the Fourth IFIP Workshop on the Performance Modelling and Evaluation of ATM Networks. It provides a fundamental source of reference on the latest research techniques and tools concerning ATM networks worldwide. A number of important topics are featured including: traffic modelling and characterisation, models of ATM switches, network management, high speed LANs and MANs and routing and optimization.

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