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### ADVANCES IN WIRELESS NETWORKS AND INFORMATION SYSTEMS

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This volume contains revised and extended research articles written by prominent researchers participating in WNIS 2009 conference. Topics covered include Wireless Information Networks, Wireless Networking Technologies, Mobile Software and Services, intelligent computing, network management, power engineering, control engineering, Signal and Image Processing, Machine Learning, Control Systems and Applications, The book will offer the states of arts of tremendous advances in Wireless Networks and Information Systems and also serve as an excellent reference work for researchers and graduate students working on Wireless Networks and Information Systems.

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### ADVANCES IN NETWORK-BASED INFORMATION SYSTEMS

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#### THE 20TH INTERNATIONAL CONFERENCE ON NETWORK-BASED INFORMATION SYSTEMS (NBIS-2017)

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[Springer](#) This book highlights the latest research findings, innovative research results, methods and development techniques from both theoretical and practical perspectives related to the emerging areas of information networking and their applications. It includes the Proceedings of the 20th International Conference on Network-Based Information Systems (NBIS-2017), held on August 24-26, 2017 in Toronto, Canada. Today's networks and information systems are evolving rapidly. Further, there are dynamic new trends and applications in information networking such as wireless sensor networks, ad hoc networks, peer-to-peer systems, vehicular networks, opportunistic networks, grid and cloud computing, pervasive and ubiquitous computing, multimedia systems, security, multi-agent systems, high-speed networks, and web-based systems. These networks are expected to manage the increasing number of users, provide support for a range of services, guarantee the quality of service (QoS), and optimize their network resources. In turn, these demands are the source of various research issues and challenges that have to be overcome - and which these Proceedings address.

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### ADVANCED WIRELESS NETWORKS

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#### TECHNOLOGY AND BUSINESS MODELS

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[John Wiley & Sons](#) The third edition of this popular reference covers enabling technologies for building up 5G wireless networks. Due to extensive research and complexity of the incoming solutions for the next generation of wireless networks it is anticipated that the industry will select a subset of these results and leave some advanced technologies to be implemented later. This new edition presents a carefully chosen combination of the candidate network architectures and the required tools for their analysis. Due to the complexity of the technology, the discussion on 5G will be extensive and it will be difficult to reach consensus on the new global standard. The discussion will have to include the vendors, operators, regulators as well as the research and academic community in the field. Having a comprehensive book will help many participants to join actively the discussion and make meaningful contribution to shaping the new standard.

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### NETWORK-BASED INFORMATION SYSTEMS

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### **FIRST INTERNATIONAL CONFERENCE, NBIS 2007, REGENSBURG, GERMANY, SEPTEMBER 3-7, 2007, PROCEEDINGS**

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[Springer](#) This book constitutes the refereed proceedings of the First International Conference on Network-Based Information Systems, NBIS 2007, held in Regensburg, Germany, September 2007 in conjunction with DEXA 2007. It covers recommender systems, business process / design aspects, mobile commerce, security and e-payment, Web services computing / semantic Web, e-negotiation and agent mediated systems, and issues in Web advertising.

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### **SECURE LOCALIZATION AND TIME SYNCHRONIZATION FOR WIRELESS SENSOR AND AD HOC NETWORKS**

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[Springer Science & Business Media](#) This book presents the latest research results in the area of secure localization for both wireless mobile ad hoc networks and wireless sensor networks. It is suitable as a text for computer science courses in wireless systems and security. It includes implementation studies with mica2 mote sensors. Due to the open spectrum nature of wireless communication, it is subject to attacks and intrusions. Hence the wireless network synchronization needs to be both robust and secure. Furthermore, issues such as energy constraints and mobility make the localization process even more challenging. The book will also interest developers of secure wireless systems.

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### **ADVANCED VIDEO COMMUNICATIONS OVER WIRELESS NETWORKS**

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[CRC Press](#) Wireless video communications encompass a broad range of issues and opportunities that serve as the catalyst for technical innovations. To disseminate the most recent advances in this challenging yet exciting field, Advanced Video Communications over Wireless Networks provides an in-depth look at the fundamentals, recent technical achievements, challenges, and emerging trends in mobile and wireless video communications. The editors have carefully selected a panel of researchers with expertise in diverse aspects of wireless video communication to cover a wide spectrum of topics, including the underlying theoretical fundamentals associated with wireless video communications, the transmission schemes tailored to mobile and wireless networks, quality metrics, the architectures of practical systems, as well as some novel directions. They address future directions, including Quality-of-Experience in wireless video communications, video communications over future networks, and 3D video communications. The book presents a collection of tutorials, surveys, and original contributions, providing an up-to-date, accessible reference for further development of research and applications in mobile and wireless video communication systems. The range of coverage and depth of expertise make this book the go-to resource for facing current and future challenges in this field.

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### **LTE-ADVANCED AND NEXT GENERATION WIRELESS NETWORKS**

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#### **CHANNEL MODELLING AND PROPAGATION**

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[John Wiley & Sons](#) LTE- A and Next Generation Wireless Networks: Channel Modeling and Performance describes recent advances in propagation and channel modeling necessary for simulating next generation wireless systems. Due to the radio spectrum scarcity, two fundamental changes are anticipated compared to the current status. Firstly, the strict reservation of a specific band for a unique standard could evolve toward a priority policy allowing the co-existence of secondary users in a band allocated to a primary system. Secondly, a huge increase of the number of cells is expected by combining outdoor base stations with smaller cells such as pico/femto cells and relays. This evolution is accompanied with the emergence of cognitive radio that becomes a reality intermingled together with the development of self-organization capabilities and distributed cooperative behaviors. The book is divided into three parts: Part I addresses the fundamentals (e.g. technologies, channel modeling principles etc.) Part II addresses propagation and modeling discussing topics such as indoor propagation, outdoor propagation, etc. Part III explores system performance and applications (e.g. MIMO Over-the-air testing, electromagnetic safety, etc).

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### **ADVANCEMENTS AND INNOVATIONS IN WIRELESS COMMUNICATIONS AND NETWORK TECHNOLOGIES**

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[IGI Global](#) The constant advancements of wireless technologies have influenced modern business practices as well as social interaction. As a result, the continuing study of communications and networking is important to better understand existing modes of information transfer, as well as developing and managing new methods. Advancements and Innovations in Wireless Communications and Network Technologies is a collection of research and case studies which tackle the issues, advancements and techniques on wireless communications and network technologies. This book offers expansive knowledge and different perspectives useful for researchers and students alike.

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**ADVANCES IN NETWORK SECURITY AND APPLICATIONS**

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**4TH INTERNATIONAL CONFERENCE, CNSA 2011, CHENNAI, INDIA, JULY 15-17, 2011, PROCEEDINGS**

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[Springer Science & Business Media](#) This book constitutes the proceedings of the 4th International Conference on Network Security and Applications held in Chennai, India, in July 2011. The 63 revised full papers presented were carefully reviewed and selected from numerous submissions. The papers address all technical and practical aspects of security and its applications for wired and wireless networks and are organized in topical sections on network security and applications, ad hoc, sensor and ubiquitous computing, as well as peer-to-peer networks and trust management.

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**WEB, ARTIFICIAL INTELLIGENCE AND NETWORK APPLICATIONS**

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**PROCEEDINGS OF THE WORKSHOPS OF THE 34TH INTERNATIONAL CONFERENCE ON ADVANCED INFORMATION NETWORKING AND APPLICATIONS (WAINA-2020)**

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[Springer Nature](#) This proceedings book presents the latest research findings, and theoretical and practical perspectives on innovative methods and development techniques related to the emerging areas of Web computing, intelligent systems and Internet computing. The Web has become an important source of information, and techniques and methodologies that extract quality information are of paramount importance for many Web and Internet applications. Data mining and knowledge discovery play a key role in many of today's major Web applications, such as e-commerce and computer security. Moreover, Web services provide a new platform for enabling service-oriented systems. The emergence of large-scale distributed computing paradigms, such as cloud computing and mobile computing systems, has opened many opportunities for collaboration services, which are at the core of any information system. Artificial intelligence (AI) is an area of computer science that builds intelligent systems and algorithms that work and react like humans. AI techniques and computational intelligence are powerful tools for learning, adaptation, reasoning and planning, and they have the potential to become enabling technologies for future intelligent networks. Research in the field of intelligent systems, robotics, neuroscience, artificial intelligence and cognitive sciences is vital for the future development and innovation of Web and Internet applications.

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**ADVANCES IN INTELLIGENT NETWORKING AND COLLABORATIVE SYSTEMS**

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**THE 12TH INTERNATIONAL CONFERENCE ON INTELLIGENT NETWORKING AND COLLABORATIVE SYSTEMS (INCOS-2020)**

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[Springer](#) This book aims to provide the latest research findings, innovative research results, methods and development techniques from both theoretical and practical perspectives related to intelligent social networks and collaborative systems, intelligent networking systems, mobile collaborative systems, secure intelligent cloud systems, etc., as well as to reveal synergies among various paradigms in such a multi-disciplinary field intelligent collaborative systems. With the fast development of the Internet, we are experiencing a shift from the traditional sharing of information and applications as the main purpose of the Web to an emergent paradigm, which locates people at the very centre of networks and exploits the value of people's connections, relations and collaboration. Social networks are also playing a major role in the dynamics and structure of intelligent Web-based networking and collaborative systems. Virtual campuses, virtual communities and organizations strongly leverage intelligent networking and collaborative systems by a great variety of formal and informal electronic relations, such as business-to-business, peer-to-peer and many types of online collaborative learning interactions, including the emerging e-learning systems. This has resulted in entangled systems that need to be managed efficiently and in an autonomous way. In addition, latest and powerful technologies based on grid and wireless infrastructure as well as cloud computing are currently enhancing collaborative and networking applications as a great deal but also facing new issues and challenges. The principal purpose of the research and development community is to stimulate research that will lead to the creation of responsive environments for networking and, at longer-term, the development of adaptive, secure, mobile and intuitive intelligent systems for collaborative work and learning.

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**ADVANCES IN NETWORKED-BASED INFORMATION SYSTEMS**

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**THE 24TH INTERNATIONAL CONFERENCE ON NETWORK-BASED INFORMATION SYSTEMS (NBIS-2021)**

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[Springer](#) This book provides the latest research findings, innovative research results, methods and development techniques from both theoretical and practical perspectives related to the emerging areas of information networking and their applications. The networks and information systems of today are evolving rapidly. There are new trends and applications

in information networking such as wireless sensor networks, ad hoc networks, peer-to-peer systems, vehicular networks, opportunistic networks, grid and cloud computing, pervasive and ubiquitous computing, multimedia systems, security, multi-agent systems, high-speed networks, and web-based systems. These kinds of networks need to manage the increasing number of users, provide support for different services, guarantee the QoS, and optimize the network resources. For these networks, there are many research issues and challenges that should be considered and find solutions.

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## **ADVANCES IN COMMUNICATION SYSTEMS AND NETWORKS**

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### **SELECT PROCEEDINGS OF COMNET 2019**

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[Springer Nature](#) This book presents the selected peer-reviewed papers from the International Conference on Communication Systems and Networks (ComNet) 2019. Highlighting the latest findings, ideas, developments and applications in all areas of advanced communication systems and networking, it covers a variety of topics, including next-generation wireless technologies such as 5G, new hardware platforms, antenna design, applications of artificial intelligence (AI), signal processing and optimization techniques. Given its scope, this book can be useful for beginners, researchers and professionals working in wireless communication and networks, and other allied fields.

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## **ADVANCED INFORMATION NETWORKING AND APPLICATIONS**

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### **PROCEEDINGS OF THE 36TH INTERNATIONAL CONFERENCE ON ADVANCED INFORMATION NETWORKING AND APPLICATIONS (AINA-2022), VOLUME 3**

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[Springer](#) This book covers the theory, design and applications of computer networks, distributed computing and information systems. Networks of today are going through a rapid evolution, and there are many emerging areas of information networking and their applications. Heterogeneous networking supported by recent technological advances in low-power wireless communications along with silicon integration of various functionalities such as sensing, communications, intelligence and actuations is emerging as a critically important disruptive computer class based on a new platform, networking structure and interface that enable novel, low-cost and high-volume applications. Several of such applications have been difficult to realize because of many interconnections problems. To fulfill their large range of applications, different kinds of networks need to collaborate, and wired and next generation wireless systems should be integrated in order to develop high-performance computing solutions to problems arising from the complexities of these networks. The aim of the book "Advanced Information Networking and Applications" is to provide the latest research findings, innovative research results, methods and development techniques from both theoretical and practical perspectives related to the emerging areas of information networking and applications.

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## **ADVANCED WIRELESS COMMUNICATIONS**

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### **4G COGNITIVE AND COOPERATIVE BROADBAND TECHNOLOGY**

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[John Wiley & Sons](#) Fully revised and updated version of the successful "Advanced Wireless Communications" Wireless communications continue to attract the attention of both research community and industry. Since the first edition was published significant research and industry activities have brought the fourth generation (4G) of wireless communications systems closer to implementation and standardization. "Advanced Wireless Communications" continues to provide a comparative study of enabling technologies for 4G. This second edition has been revised and updated and now includes additional information on the components of common air interface, including the area of space time coding , multicarrier modulation especially OFDM, MIMO, cognitive radio and cooperative transmission. Ideal for students and engineers in research and development in the field of wireless communications, the second edition of Advanced Wireless Communications also gives an understanding to current approaches for engineers in telecomm operators, government and regulatory institutions. New features include: Brand new chapter covering linear precoding in MIMO channels based on convex optimization theory. Material based on game theory modelling encompassing problems of adjacent cell interference, flexible spectra sharing and cooperation between the nodes in ad hoc networks. Presents and discusses the latest schemes for interference suppression in ultra wide band (UWB) cognitive systems. Discusses the cooperative transmission and more details on positioning.

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## **SECURITY FOR TELECOMMUNICATIONS NETWORKS**

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[Springer Science & Business Media](#) This book responds to the growing need to secure critical infrastructure by creating a starting place for new researchers in secure telecommunications networks. It is the first book to discuss securing current and next generation telecommunications networks by the security community. The book not only

discusses emerging threats and systems vulnerability, but also presents the open questions posed by network evolution and defense mechanisms. It is designed for professionals and researchers in telecommunications. The book is also recommended as a secondary text for graduate-level students in computer science and electrical engineering.

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## **DEVELOPMENTS IN WIRELESS NETWORK PROTOTYPING, DESIGN, AND DEPLOYMENT: FUTURE GENERATIONS**

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### **FUTURE GENERATIONS**

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IGI Global "This book highlights the current design issues in wireless networks, informing scholars and practitioners about advanced prototyping innovations in this field"--

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## **ADVANCED INFORMATION NETWORKING AND APPLICATIONS**

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### **PROCEEDINGS OF THE 33RD INTERNATIONAL CONFERENCE ON ADVANCED INFORMATION NETWORKING AND APPLICATIONS (AINA-2019)**

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Springer The aim of the book is to provide latest research findings, innovative research results, methods and development techniques from both theoretical and practical perspectives related to the emerging areas of information networking and applications. Networks of today are going through a rapid evolution and there are many emerging areas of information networking and their applications. Heterogeneous networking supported by recent technological advances in low power wireless communications along with silicon integration of various functionalities such as sensing, communications, intelligence and actuators are emerging as a critically important disruptive computer class based on a new platform, networking structure and interface that enable novel, low cost and high volume applications. Several of such applications have been difficult to realize because of many interconnections problems. To fulfill their large range of applications different kinds of networks need to collaborate and wired and next generation wireless systems should be integrated in order to develop high performance computing solutions to problems arising from the complexities of these networks. This book covers the theory, design and applications of computer networks, distributed computing and information systems.

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## **ADVANCES IN NETWORK MANAGEMENT**

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CRC Press Over the past two decades, business volume of hardware and software in the U.S has decreased by about seventy percent, while the cost of management and support has grown from \$20 billion to \$140 billion. With close to seventy percent of this growing figure being spent on the management of legacy systems and only thirty percent on new systems, improvements in the development of self-managing systems have become a cost-saving priority for many corporations and an issue of strategic importance for many economies. Investigating the latest theories, methods, and technologies, Advances in Network Management provides the insight of a recognized expert into the fundamental concepts and contemporary challenges in network management. From basic concepts to research-level material, it details the evolution of network management solutions in network management paradigms, protocols, and techniques. The book also addresses dependencies between network management and application-level service management. This forward-looking resource investigates advanced networks and network services including—autonomic computing, context-aware systems management, and automatic techniques aiming at self-management (self-configuration, self-healing, self-optimization, and self-protection). With its breadth and depth of coverage in theoretical, technical, and research topics, this book provides time-tested guidance for dealing with the growing complexity of network services while improving cost efficiencies in your IT department.

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## **ADVANCES IN INTELLIGENT NETWORKING AND COLLABORATIVE SYSTEMS**

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### **THE 9TH INTERNATIONAL CONFERENCE ON INTELLIGENT NETWORKING AND COLLABORATIVE SYSTEMS (INCOS-2017)**

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Springer The aim of this book is to provide the latest research findings, innovative research results, methods and development techniques from both theoretical and practical perspectives related to intelligent social networks and collaborative systems, intelligent networking systems, mobile collaborative systems, secure intelligent cloud systems, etc., and to reveal synergies among various paradigms in the multi-disciplinary field of intelligent collaborative systems. It presents the Proceedings of the 9th International Conference on Intelligent Networking and Collaborative Systems (INCoS-2017), held on August 24-26, 2017 in Toronto, Canada. With the rapid evolution of the Internet, we are currently experiencing a shift from the traditional sharing of information and applications as the main purpose of the Web to an emergent paradigm that puts people at the very centre of networks and exploits the value of people's connections, relations and collaborations. Social networks are also playing a major role in the dynamics and structure of intelligent Web-based networking and collaborative systems. Virtual campuses, virtual communities and organizations effectively leverage intelligent networking and collaborative systems by

tapping into a broad range of formal and informal electronic relations, such as business-to-business, peer-to-peer and many types of online collaborative learning interactions, including the emerging e-learning systems. This has resulted in entangled systems that need to be managed efficiently and autonomously. In addition, the latest and powerful technologies based on Grid and wireless infrastructure as well as Cloud computing are now greatly enhancing collaborative and networking applications, but are also facing new issues and challenges. The principal objective of the research and development community is to stimulate research that leads to the creation of responsive environments for networking and, in the longer-term, the development of adaptive, secure, mobile, and intuitive intelligent systems for collaborative work and learning.

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## **HANDBOOK OF RESEARCH ON DEVELOPMENTS AND TRENDS IN WIRELESS SENSOR NETWORKS: FROM PRINCIPLE TO PRACTICE**

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### **FROM PRINCIPLE TO PRACTICE**

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[IGI Global](#) "This book showcases the work many devoted wireless sensor network researchers all over world, and exhibits the up-to-date developments of WSNs from various perspectives"--Provided by publisher.

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## **ADVANCES ON BROAD-BAND WIRELESS COMPUTING, COMMUNICATION AND APPLICATIONS**

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### **PROCEEDINGS OF THE 14TH INTERNATIONAL CONFERENCE ON BROAD-BAND WIRELESS COMPUTING, COMMUNICATION AND APPLICATIONS (BWCCA-2019)**

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[Springer Nature](#) This proceedings book presents the latest research findings, innovative research results, methods and development techniques related to the emerging areas of broadband and wireless computing, from both theoretical and practical perspectives. Today's information networks are going through a rapid evolution. Different kinds of networks with different characteristics are emerging, and are being integrated into heterogeneous networks. As a result, there are numerous interconnection problems that can occur at different levels of the hardware and software design of communicating entities and communication networks. Such networks need to manage an increasing usage demand, provide support for a significant number of services, guarantee their QoS, and optimize the network resources. The success of all-IP networking and wireless technology has changed the way of living for people around the globe. Advances in electronic integration and wireless communications will pave the way to offering access to wireless networks on the fly, which in turn will allow electronic devices to share information with each other wherever and whenever necessary.

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## **ULTRA-WIDEBAND WIRELESS COMMUNICATIONS AND NETWORKS**

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[John Wiley & Sons](#) Learn about Ultra-wideband (UWB) transmission - the most talked about application in wireless communications. UWB wireless communication is a revolutionary technology for transmitting large amounts of digital data over a wide spectrum of frequency bands with very low power for a short distance. This exciting new text covers the fundamental aspects of UWB wireless communications systems for short-range communications. It also focuses on more advanced information about networks and applications. Chapters include: Radio Propagation and Large Scale Variations, Pulse Propagation and Channel Modelling, MIMO (Multiple Input, Multiple Output) RF Subsystems and Ad Hoc Networks. Focuses on UWB wireless communications rather than UWB radar, which has been covered before. Provides long and short-term academic and technological value. Teaches readers the fundamentals, challenges and up-to-date technical processes in this field.

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## **RECENT TRENDS AND ADVANCES IN WIRELESS AND IOT-ENABLED NETWORKS**

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[Springer](#) The book covers a variety of topics in Information and Communications Technology (ICT) and their impact on innovation and business. The authors discuss various innovations, business and industrial motivations, and impact on humans and the interplay between those factors in terms of finance, demand, and competition. Topics discussed include the convergence of Machine to Machine (M2M), Internet of Things (IoT), Social, and Big Data. They also discuss AI and its integration into technologies from machine learning, predictive analytics, security software, to intelligent agents, and many more. Contributions come from academics and professionals around the world. Covers the most recent practices in ICT related topics pertaining to technological growth, innovation, and business; Presents a survey on the most recent technological areas revolutionizing how humans communicate and interact; Features four sections: IoT, Wireless Ad Hoc & Sensor Networks, Fog Computing, and Big Data Analytics.

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## **ADVANCES IN WIRELESS SENSORS AND SENSOR NETWORKS**

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[Springer Science & Business Media](#) In recent times wireless sensors and sensor networks have become a great interest to research, scientific and technological community. Though the sensor networks have been in place for more than a few decades now, the wireless domain has opened up a whole new application spaces of sensors. Wireless sensors and sensor networks are different from traditional wireless networks as well computer networks and therefore pose more challenges to solve such as limited energy, restricted life time, etc. This book intends to illustrate and to collect recent advances in wireless sensors and sensor networks, not as an encyclopedia but as clever support for scientists, students and researchers in order to stimulate exchange and discussions for further developments.

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## **ADVANCES IN INTELLIGENT NETWORKING AND COLLABORATIVE SYSTEMS**

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### **THE 10TH INTERNATIONAL CONFERENCE ON INTELLIGENT NETWORKING AND COLLABORATIVE SYSTEMS (INCOS-2018)**

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[Springer](#) This book provides the latest research findings, and discusses, from both theoretical and practical perspectives, innovative research methods and development techniques related to intelligent social networks and collaborative systems, intelligent networking systems, mobile collaborative systems and secure intelligent cloud systems. It also presents the synergies among various paradigms in such a multi-disciplinary field of intelligent collaborative systems. With the rapid development of the Internet, we are experiencing a shift from the traditional sharing of information and applications as the main purpose of the Web to an emergent paradigm, which locates people at the very centre of networks and exploits the value of individuals' connections, relations and collaboration. Social networks are also playing a major role in the dynamics and structure of intelligent Web-based networking and collaborative systems. Virtual campuses, virtual communities and organizations strongly leverage intelligent networking and collaborative systems by means of a great variety of formal and informal electronic relations, such as business-to-business, peer-to-peer and various types of online collaborative learning interactions, including the emerging e-learning systems. This has resulted in entangled systems that need to be managed efficiently and autonomously. In addition, the latest, powerful technologies based on grid and wireless infrastructure as well as cloud computing are currently enhancing collaborative and networking applications significantly, but are also facing new issues and challenges. The principal purpose of the research and development community is to stimulate research that will lead to the creation of responsive environments for networking and, in the longer term, the development of adaptive, secure, mobile, and intuitive intelligent systems for collaborative work and learning.

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## **ADVANCED OPTICAL WIRELESS COMMUNICATION SYSTEMS**

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[Cambridge University Press](#) Combines theory with real-world case studies to give a comprehensive overview of modern optical wireless technology.

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## **ADVANCED ANTENNA SYSTEMS FOR 5G NETWORK DEPLOYMENTS**

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### **BRIDGING THE GAP BETWEEN THEORY AND PRACTICE**

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[Academic Press](#) **Advanced Antenna Systems for 5G Network Deployments: Bridging the Gap between Theory and Practice** provides a comprehensive understanding of the field of advanced antenna systems (AAS) and how they can be deployed in 5G networks. The book gives a thorough understanding of the basic technology components, the state-of-the-art multi-antenna solutions, what support 3GPP has standardized together with the reasoning, AAS performance in real networks, and how AAS can be used to enhance network deployments. Explains how AAS features impact network performance and how AAS can be effectively used in a 5G network, based on either NR and/or LTE Shows what AAS configurations and features to use in different network deployment scenarios, focusing on mobile broadband, but also including fixed wireless access Presents the latest developments in multi-antenna technologies, including Beamforming, MIMO and cell shaping, along with the potential of different technologies in a commercial network context Provides a deep understanding of the differences between mid-band and mm-Wave solutions

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## **ADVANCED RF ENGINEERING FOR WIRELESS SYSTEMS AND NETWORKS**

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[Wiley-IEEE Press](#) **The ultimate guide to next-generation network systems and network design** With the explosive growth in RF and wireless technologies, there is a critical shortage of skilled engineers to design and operate today's vast communications networks. **Advanced RF Engineering for Wireless Systems and Networks** provides a multidimensional primer for professionals involved in the design of next-generation wireless and satellite communications systems and networks. This essential work offers systematic, hands-on guidance to

wireless system design, clearly demonstrating how to design second- and third-generation systems from the ground up. Written in an easy-to-understand, tutorial style, the book: \* Covers the latest in the design of filters, amplifiers, RF switches, and oscillators for 2G and 3G technologies \* Includes a detailed RF treatment of the WLAN aspects \* Introduces the completely new topic of services over GPRS areas \* Clarifies the difference between 1G, 2G, and 3G systems \* Outlines strategies for migrating from 2G to 3G technologies \* Bridges between engineering and networking concepts \* Provides useful theoretical and design problems at the end of chapters

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## **ADVANCES IN AD HOC NETWORKING**

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### **PROCEEDINGS OF THE SEVENTH ANNUAL MEDITERRANEAN AD HOC NETWORKING WORKSHOP, PALMA DE MALLORCA, SPAIN, JUNE 25-27, 2008**

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[Springer](#) This volume contains the proceedings of the Seventh Mediterranean Ad Hoc Networking Workshop (Med-Hoc-Net'2008), celebrated in Palma de Mallorca (Illes Balears, Spain) during June 25-27, 2008. This IFIP TC6 Workshop was organized by the Universitat de les Illes Balears in cooperation with the Associaci6n de Tdcnicos de Inform~tica and sponsored by the following Working Groups: WG6.3 (Performance of Computer Networks) and WG6.8 (Mobile and Wireless Communications). The rapid evolution of the networking industry introduces new exciting challenges that need to be explored by the research community. Aside the adoption of Internet as the global network infrastructure these last years have shown the growing of a set of new network architectures without a rigid and known a priori architecture using wireless techniques, like sensor and ad-hoc networks. These new types of networks are opening the possibility to create a large number of new applications ranging from domestic to nature surveying. These new networks are generating new technical challenges like the capability of auto-reconfiguration in order to give the network an optimal configuration, the energy saving need when the nodes have not a source of energy other than a small battery, new protocols to access the network and to convey the information across the network when its structure is not completely known or should be discovered, new paradigms for keeping the needed information security and privacy in a quite uncontrolled environment, and others.

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## **ADVANCES IN INTERNET, DATA AND WEB TECHNOLOGIES**

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### **THE 7TH INTERNATIONAL CONFERENCE ON EMERGING INTERNET, DATA AND WEB TECHNOLOGIES (EIDWT-2019)**

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[Springer](#) This book presents original contributions on the theories and practices of emerging Internet, Data and Web technologies and their applications in businesses, engineering and academia. As a key feature, it addresses advances in the life-cycle exploitation of data generated by digital ecosystem technologies. The Internet has become the most proliferative platform for emerging large-scale computing paradigms. Among these, Data and Web technologies are two of the most prominent paradigms, manifesting in a variety of forms such as Data Centers, Cloud Computing, Mobile Cloud, Mobile Web Services, and so on. These technologies altogether create a digital ecosystem whose cornerstone is the data cycle, from capturing to processing, analysis and visualization. The need to investigate various research and development issues in this digital ecosystem has been made even more pressing by the ever-increasing demands of real-life applications, which are based on storing and processing large amounts of data. Given its scope, the book offers a valuable asset for all researchers, software developers, practitioners and students interested in the field of Data and Web technologies.

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## **HANDBOOK OF RESEARCH ON ADVANCED WIRELESS SENSOR NETWORK APPLICATIONS, PROTOCOLS, AND ARCHITECTURES**

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[IGI Global](#) The implementation of wireless sensor networks has wide-ranging applications for monitoring various physical and environmental settings. However, certain limitations with these technologies must be addressed in order to effectively utilize them. The Handbook of Research on Advanced Wireless Sensor Network Applications, Protocols, and Architectures is a pivotal reference source for the latest research on recent innovations and developments in the field of wireless sensors. Examining the advantages and challenges presented by the application of these networks in various areas, this book is ideally designed for academics, researchers, students, and IT developers.

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## **WIRELESS SENSORS AND INSTRUMENTS**

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### **NETWORKS, DESIGN, AND APPLICATIONS**

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[CRC Press](#) Advances such as 3-G mobile communications networks demonstrate the increasing capability of high-quality data transmission over wireless media. Adapting wireless functionality into instrument and sensor systems endows them with unmatched flexibility, robustness, and intelligence. *Wireless Sensors and Instruments: Networks, Design, and Applications* explains the principles, state-of-the-art technologies, and modern applications of this burgeoning field. From underlying concepts to practical applications, this book

outlines all the necessary information to plan, design, and implement wireless instrumentation and sensor networks effectively and efficiently. The author covers the basics of instruments, measurement, sensor technology, communication systems, and networks along with the theory, methods, and components involved in digital and wireless instruments. Placing these technologies in context, the book also examines the principles, components, and techniques of modern communication systems followed by network standards, protocols, topologies, and security. Building on these discussions, the book uses examples to illustrate the practical aspects of constructing sensors and instruments. Finally, the author devotes the closing chapter to applications in a broad array of fields, including commercial, human health, and consumer products applications. Filled with up-to-date information and thorough coverage of fundamentals, *Wireless Sensors and Instruments: Networks, Design, and Applications* supplies critical, hands-on tools for efficiently, effectively, and immediately implementing advanced wireless systems.

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#### **USER-CENTRIC AND INFORMATION-CENTRIC NETWORKING AND SERVICES**

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#### **ACCESS NETWORKS, STORAGE AND CLOUD PERSPECTIVE**

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[CRC Press](#) *User-Centric Networks (UCN) and Information-Centric Networks (ICN)* are new communication paradigms to increase the efficiency of content delivery and also content availability. In this new concept, the network infrastructure actively contributes to content caching and distribution. This book presents the basic concepts of UCN and ICN, describes the main architecture proposals for these networks, and discusses the main challenges to their development. The book also looks at the current challenges for this concept, including naming, routing and caching on the network-core elements, several aspects of content security, user privacy, and practical issues in implementing UCN and ICN.

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#### **ADVANCES IN WIRELESS SENSOR NETWORKS**

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#### **7TH CHINA CONFERENCE, CWSN 2013, QINGDAO, CHINA, OCTOBER 17-19, 2013. REVISED SELECTED PAPERS**

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[Springer](#) This book constitutes the refereed proceedings of the 7th China Conference of Wireless Sensor Networks, held in Qingdao, China, in October 2013. The 35 revised full papers were carefully reviewed and selected from 191 submissions. The papers cover a wide range of topics in the wireless sensor network fields like node systems, infrastructures, communication protocols, data management.

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#### **ADVANCES ON BROAD-BAND WIRELESS COMPUTING, COMMUNICATION AND APPLICATIONS**

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#### **PROCEEDINGS OF THE 12TH INTERNATIONAL CONFERENCE ON BROAD-BAND WIRELESS COMPUTING, COMMUNICATION AND APPLICATIONS (BWCCA-2017)**

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[Springer](#) This book gathers the Proceedings of the 12th International Conference on Broad-Band Wireless Computing, Communication and Applications, held on November 8-10, 2017 in Barcelona, Spain. Information networking is currently undergoing a rapid evolution. Different kinds of networks with different characteristics are emerging and being integrated in heterogeneous networks. As a result, there are many interconnected problems that can occur at different levels of the hardware and software design of communicating entities and communication networks. These networks are expected to manage increasing usage demand, provide support for a significant number of services, guarantee Quality of Service (QoS), and optimize the use of network resources. The success of all-IP networking and wireless technology has changed the lifestyles of people around the world, and advances in electronic integration and wireless communications will pave the way to providing access to wireless networks on the fly, as electronic devices can increasingly exchange information with each other virtually anytime and anywhere. The aim of this book is to provide the latest findings, methods and development techniques from both theoretical and practical perspectives regarding the emerging areas of broad-band and wireless computing.

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#### **RECENT ADVANCES IN BROADBAND INTEGRATED NETWORK OPERATIONS AND SERVICES MANAGEMENT**

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[IGI Global](#) "This book covers the principles of both wired and wireless communications of voice, data, images, and video and the impact of their business values on the organizations in which they are used"--Provided by publisher.

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#### **ADVANCES IN SECURITY, NETWORKS, AND INTERNET OF THINGS**

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### PROCEEDINGS FROM SAM'20, ICWN'20, ICOMP'20, AND ESCS'20

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[Springer Nature](#) The book presents the proceedings of four conferences: The 19th International Conference on Security & Management (SAM'20), The 19th International Conference on Wireless Networks (ICWN'20), The 21st International Conference on Internet Computing & Internet of Things (ICOMP'20), and The 18th International Conference on Embedded Systems, Cyber-physical Systems (ESCS'20). The conferences took place in Las Vegas, NV, USA, July 27-30, 2020. The conferences are part of the larger 2020 World Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE'20), which features 20 major tracks. Authors include academics, researchers, professionals, and students. Presents the proceedings of four conferences as part of the 2020 World Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE'20); Includes the tracks on security & management, wireless networks, internet computing and IoT, and embedded systems as well as cyber-physical systems; Features papers from SAM'20, ICWN'20, ICOMP'20 and ESCS'20.

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### ADVANCED TECHNOLOGIES AND WIRELESS NETWORKS BEYOND 4G

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[John Wiley & Sons](#) A guide to the physical and mathematical-statistical approaches to personal and mobile wireless communication networks **Wireless Networks Technologies** offers an authoritative account of several current and modern wireless networks and the corresponding novel technologies and techniques. The text explores the main aspects of the "physical layer" of the technology. The authors—noted experts on the topic—examine the well-known networks (from 2-G to 3-G) in a historical perspective. They also illuminate the "physical layer" of networks while presenting polarization diversity analysis and positioning of any subscriber located in areas of service both for land-to-land and land-to-atmosphere communication links. The book includes clear descriptions of planning techniques for different integrated femto/pico/micro/macroucell deployments. The authors also examine new technologies of time and frequency dispersy and multiple-input and multiple-output (MIMO) modern network design in space and time domains. In addition, the text contains a discussion of a MIMO network based on multi-beam adaptive antennas. This important book: Provides an examination of current and modern wireless networks Describes various techniques of signal data capacity and spectral efficiency based on the universal stochastic approach Explains how usage of MIMO systems with adaptive multi-beam antennas increase the grade of service and quality of service of modern networks beyond 4-G Provides comparative analysis of depolarization effects and the corresponding path loss factor for rural, mixed residential, suburban, and urban land areas Written for students and instructors as well as designers and engineers of wireless communications systems, **Wireless Networks Technologies** offers a combination of physical and mathematical-statistical approaches to predict operational parameters of land-to-land and land-to-atmosphere personal and mobile wireless communication networks.

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### INNOVATIONS AND ADVANCES IN COMPUTING, INFORMATICS, SYSTEMS SCIENCES, NETWORKING AND ENGINEERING

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[Springer](#) **Innovations and Advances in Computing, Informatics, Systems Sciences, Networking and Engineering** This book includes a set of rigorously reviewed world-class manuscripts addressing and detailing state-of-the-art research projects in the areas of Computer Science, Informatics, and Systems Sciences, and Engineering. It includes selected papers from the conference proceedings of the Eighth and some selected papers of the Ninth International Joint Conferences on Computer, Information, and Systems Sciences, and Engineering (CISSE 2012 & CISSE 2013). Coverage includes topics in: Industrial Electronics, Technology & Automation, Telecommunications and Networking, Systems, Computing Sciences and Software Engineering, Engineering Education, Instructional Technology, Assessment, and E-learning. · Provides the latest in a series of books growing out of the International Joint Conferences on Computer, Information, and Systems Sciences, and Engineering; · Includes chapters in the most advanced areas of Computing, Informatics, Systems Sciences, and Engineering; · Accessible to a wide range of readership, including professors, researchers, practitioners and students.