

1. Record Nr.	UNINA9910299276503321
Titolo	Cognitive Radio Oriented Wireless Networks : 12th International Conference, CROWNCOM 2017, Lisbon, Portugal, September 20-21, 2017, Proceedings / / edited by Paulo Marques, Ayman Radwan, Shahid Mumtaz, Dominique Noguet, Jonathan Rodriguez, Michael Gundlach
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-76207-9
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (XIII, 348 p. 154 illus.)
Collana	Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, , 1867-822X ; ; 228
Disciplina	004
Soggetti	Computer networks Artificial intelligence Application software Coding theory Information theory Computer Communication Networks Artificial Intelligence Computer and Information Systems Applications Coding and Information Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Preface -- Organization -- Contents -- Main Track -- Network Resource Trading: Locating the Contract Sweet Spot for the Case of Dynamic and Decentralized Non-broker Spectrum Sharing -- 1 Introduction -- 2 System Description and Definitions -- 3 Trading Algorithm -- 4 System-Level Simulation Description -- 5 System-Level Assessment -- 6 Conclusion -- References -- Meet an Fantastic Sibyl: A Powerful Model in Cognitive Radio Networks -- Abstract -- 1 Introduction -- 2 System Model -- 2.1 Time Correlation Estimate -- 2.2 Primary User Behavior Characteristic -- 2.3 AR-PUER Model -- 3 Simulations and Analysis -- 4 Conclusion -- Acknowledgement -- References -- REM-Based Indoor Wireless Network Deployment - An

Experimental Study -- 1 Introduction -- 2 REM Database Description --
 3 Experiment Setup -- 4 Achieved Results -- 5 Conclusions --
 References -- Autonomous Spectrum Assignment of White Space
 Devices -- 1 Introduction -- 1.1 Related Work -- 2 System Model -- 3
 Evaluation -- 4 Conclusions -- References -- Machine Learning-Aided
 Radio Scenario Recognition for Cognitive Radio Networks in Millimeter-
 Wave Bands -- Abstract -- 1 Introduction -- 2 Framework of Radio
 Scenario Recognition -- 2.1 Feature Extraction -- 2.2 Information
 Exchange -- 3 Advanced BP-AdaBoost Algorithm -- 3.1 BP-AdaBoost
 Algorithm -- 3.2 Advanced BP-AdaBoost Algorithm -- 4 Simulation
 Results -- 5 Summary -- References -- Dynamic Base Station Sleep
 Control via Submodular Optimization for Green mmWave Networks -- 1
 Introduction -- 2 System Model -- 3 Submodular Optimization for
 mmWave BS Sleep Control -- 3.1 Problem Formulation -- 3.2
 Algorithms to Solve the Problem -- 4 Numerical Evaluation -- 4.1
 Simulation Scenario -- 4.2 Numerical Result -- 5 Conclusion --
 References -- Implementation of a Pseudonym-Based Signature
 Scheme with Bilinear Pairings on Android.
 1 Introduction -- 2 System Model -- 2.1 System Functionalities -- 2.2
 Use-Case Scenarios -- 3 Pseudonym-Based Signature Scheme -- 4
 Implementation Details -- 4.1 Public Parameter Generation -- 4.2 CA
 Server -- 4.3 Client -- 4.4 Verifier -- 5 Results -- 6 Conclusion --
 References -- Cognitive Radio Policy-Based Adaptive Blind Rendezvous
 Protocols for Disaster Response -- 1 Introduction -- 2 Related Work --
 3 System Preliminaries -- 4 Extended Modular Clock Algorithm (EMCA)
 with Neighbor Information Exchange Mechanism -- 5 Cognitive Radio
 Operating Policies -- 6 Performance Evaluation -- 7 Conclusion --
 References -- Application of the CBRS Model for Wireless Systems
 Coexistence in 3.6-3.8 GHz Band -- 1 Introduction -- 2 Proposed
 Vertical Spectrum Sharing Model for 3.6-3.8GHz -- 2.1 Multi-tier
 Spectrum Sharing - Scenario Definition -- 2.2 Database Structure and
 Functionality -- 2.3 GAA Subsystem Functionality -- 3 Experiment
 Results -- 3.1 WiMAX and Microwave Link Setup -- 3.2 GAA Subsystem
 -- 3.3 Use Case 1 - One Active GAA Subsystem -- 3.4 Use Case 2 -
 Two Active GAA Subsystems -- 4 Conclusions -- References --
 Spectrum Occupancy Classification Using SVM-Radial Basis Function --
 1 Introduction -- 2 Measurement Setup and Data -- 3 Measurement
 Scenario -- 4 Spectrum Occupancy Characteristics -- 5 Methods for
 Spectrum Occupancy -- 5.1 Linear Correlation Method -- 5.2 Average
 Duty Cycle Method -- 5.3 Continuous Time Semi-Markov Chain Model
 -- 5.4 Linear Mixed Effect Model for Spectrum Occupancy -- 6
 Statistical Analysis Using Radial Basis Function -- 7 Conclusion --
 References -- Analysis of Blockchain Use Cases in the Citizens
 Broadband Radio Service Spectrum Sharing Concept -- Abstract -- 1
 Introduction -- 2 Citizens Broadband Radio Service Concept -- 3
 Blockchain Technology -- 4 Analysis of Blockchain Use Cases in CBRS.
 4.1 CBRS Implementation Considerations -- 4.2 BC Core Characteristics
 -- 4.3 Use Case Analysis -- 5 Conclusion -- Acknowledgments --
 References -- Lessons Learned from Long-Term and Imperfect Sensing
 in 2.4 GHz Unlicensed Band -- Abstract -- 1 Introduction -- 2 Related
 Work -- 3 Preliminaries -- 4 Observations and Results -- 4.1 Overview
 (Dataset B) -- 4.2 Temporal Trends (Dataset A) -- 4.3 Real vs. Synthetic
 Data. Correlations (Dataset B) -- 5 Conclusions -- References -- A
 Planning Tool for TV White Space Deployments -- 1 Introduction -- 2
 Design -- 2.1 Criteria for Selection of Base Stations -- 2.2 Throughput
 Calculations -- 2.3 Algorithm -- 2.4 Datasets -- 2.5 Graphical User
 Interface of the Planning Tool -- 3 Evaluation -- 4 Related Work -- 5
 Conclusion -- References -- Impact of Mobility in Spectrum Sensing

Capacity -- Abstract -- 1 Introduction -- 2 System Model -- 2.1 System Description -- 2.2 Distribution of the PUs Over the Simulated Region -- 3 Aggregate Interference -- 3.1 Interference Caused by the PUs Located Within the l -th Annulus -- 3.2 Aggregate Interference Due to PUs Located Within L Annuli -- 3.3 Distribution of the Aggregate Interference -- 4 Sensing Capacity -- 4.1 Formal Definition -- 4.2 Comparison Results -- 5 Conclusions -- Acknowledgments -- References

Multi-Armed Bandit Learning in IoT Networks: Learning Helps Even in Non-stationary Settings -- 1 Introduction -- 2 System Model and Notations -- 3 Three Reference Policies -- 3.1 Naive Policy: Random Channel Selection -- 3.2 (Unachievable) Optimal Oracle Policy -- 3.3 A Greedy Approach of the Oracle Strategy -- 4 Sequential Policies Based on Bandit Algorithms -- 4.1 Stochastic Multi-Armed Bandits -- 4.2 The UCB1 Algorithm -- 4.3 Thompson Sampling -- 4.4 A Bandit Model for IoT -- 5 Experiments and Numerical Results -- 6 Conclusion -- References.

Inter-operator Interference Coordination in the Spectrum-Sharing Overlapping Area -- Abstract -- 1 Introduction -- 2 Related Works -- 3 System Scenario and Interference Model -- 3.1 System Scenario -- 3.2 Interference Model -- 4 Clustering-Based Spectrum Allocation -- 4.1 Undirected Weighted Graph -- 4.2 Undirected Weighted Graph-Based Clustering Approach -- 4.3 Clustering-Based Spectrum Allocation Method -- 5 Power Adjustment Procedure -- 6 Performance Simulations -- 6.1 Simulation Scenario -- 6.2 Simulation Parameters -- 6.3 Ratio of Satisfied SUs -- 6.4 Comparison of the CDF of SINR -- 6.5 Sum of Co-channel Interference -- 7 Conclusion -- References

Blind Symbol Rate Estimation of Faster-than-Nyquist Signals Based on Higher-Order Statistics -- 1 Introduction -- 2 System Model: Single-Carrier Linear Transmitter -- 2.1 Faster-than-Nyquist Signaling -- 2.2 Higher-Order Statistics of FTN Signals -- 2.3 Proposed Estimator over the AWGN Channel -- 3 Simulations -- 4 Conclusion -- References

Impact of Uncertainty About a User to be Active on OFDM Transmission Strategies -- 1 Introduction -- 2 Formulation of the Problem -- 3 Equilibrium Strategies in Closed Form -- 4 Both Users Always are Active: Explicit Solution -- 5 Conclusions -- A Appendix -- References

Invited Papers -- Reliable and Reproducible Radio Experiments in FIT/CorteXlab SDR Testbed: Initial Findings -- 1 Introduction -- 2 Experimental Reproducibility -- 3 Path-Loss Characterization in FIT/CorteXlab -- 3.1 TX-RX Gain-Power Characterization -- 3.2 Path-Loss Measurement Campaign -- 4 Experimental Results -- 5 Conclusions and Perspectives -- References

Spectrum Broker Service for Micro-operator and CBRS Priority Access Licenses -- Abstract -- 1 Introduction -- 2 Brokering Business and CBRS -- 3 Spectrum Broker Service Concept -- 4 Automatic Spectrum Valuation -- 5 Conclusions. References

Designing a Testbed Infrastructure for Experimental Validation and Trialing of 5G Vertical Applications -- 1 Introduction -- 2 TUAS Test Networks and Field Measurement Activities -- 2.1 Digital Terrestrial Television and TV White Spaces -- 2.2 Licensed Spectrum Sharing -- 2.3 Industrial IoT -- 3 Spectrum Issues in 5G -- 4 TUAS Testbed for 5G Vertical Applications -- 5 Radio Spectrum Monitoring and Sensing -- 6 Conclusions -- References

Interference Study of Micro Licensing for 5G Micro Operator Small Cell Deployments -- Abstract -- 1 Introduction -- 2 Local Micro Operator Deployments -- 2.1 Micro Operator Concept -- 2.2 Interference Characterization -- 3 Calculation of Maximum Allowable Transmit Power -- 4 Results -- 5 Conclusions and Future Work -- Acknowledgment -- References

Using Deep Neural Networks for Forecasting Cell Congestion on LTE Networks: A Simple Approach -- Abstract -- 1 Introduction -- 2 State

of the Art Related to Forecast -- 2.1 Classical Framework -- 2.2 Deep Neural Networks -- 3 Methodology and Methods -- 3.1 Methodology -- 3.2 Method -- 4 Experimental Results -- 5 Conclusions -- Acknowledgments -- References -- Radio Hardware Virtualization for Coping with Dynamic Heterogeneous Wireless Environments -- Abstract -- 1 Introduction -- 2 Latency Analysis -- 2.1 Latency Requirement of Wi-Fi and LTE -- 2.2 Latency Measurement Results of USRP + Host Computer -- 2.3 Latency Measurement Results of Xilinx Zynq-7000 SoC -- 3 Architecture Design -- 4 Demonstration -- 5 Conclusion and Future Work -- Acknowledgment -- References -- TV White Spaces and Licensed Shared Access Applied to the Brazilian Context -- 1 Introduction -- 2 Spectrum Sharing -- 2.1 TVWS -- 2.2 LSA -- 3 Brazilian Regulation Scenario -- 4 Spectrum Sharing Trends in Brazil -- 4.1 TVWS Case Study -- 4.2 LSA Case Study -- 5 Conclusions -- References.
MAC Design for 5G Dense Networks Based on FBMC Modulation.

Sommario/riassunto

This book constitutes the thoroughly refereed conference proceedings of the 12th International Conference on Cognitive Radio Oriented Wireless Networks, CROWNCOM 2017, held in Lisbon, Portugal, in September 2017. The 28 revised full papers presented were carefully reviewed and selected from numerous submissions and cover the evolution of cognitive radio technology pertaining to 5G networks. The papers are clustered to topics on spectrum management; network management; trials, test beds, and tools; PHY and sensing; spectrum management.
