Evaluation of a Heterogeneous Multicore Architecture by Design and Test of an OFDM Receiver
Research output: Scientific - peer-review › Article

Proc. 2017 IEEE Nordic Circuits and Systems Conference (NORCAS)
25 Oct 2017 IEEE.
Research output: Scientific - peer-review › Anthology

Continuous high-accuracy radio positioning of cars in ultra-dense 5G networks
Wireless Communications and Mobile Computing Conference (IWMC). IEEE
Research output: Scientific - peer-review › Conference contribution

Linearity Challenges of LTE-Advanced Mobile Transmitters: Requirements and Potential Solutions
Research output: Scientific - peer-review › Article

Efficient fast-convolution based waveform processing for 5G physical layer
Research output: Scientific - peer-review › Article

Arguments of Innovative Antenna Design and Centralized Macro Sites for 5G
Research output: Scientific - peer-review › Article

Joint Device Positioning and Clock Synchronization in 5G Ultra-Dense Networks
Koivisto, M., Costa, M. J., Werner, J., Heiska, K., Talvitie, J., Leppänen, K., Koivunen, V. & Valkama, M. May 2017 In :
IEEE Transactions on Wireless Communications. 16, 5, p. 2866-2881
Research output: Scientific - peer-review › Article

Enhanced multicarrier techniques for narrowband and broadband PMR coexistence
Research output: Scientific - peer-review › Article

A Survey on Wireless Transmitter Localization Using Signal Strength Measurements
Research output: Scientific - peer-review › Review Article

Modeling and Joint Mitigation of TX and RX Nonlinearity Induced Receiver Desensitization
Research output: Scientific - peer-review › Article

Capacity Analysis of Joint Transmission CoMP With Adaptive Modulation
Research output: Scientific - peer-review › Article

Analytical performance estimation of network-assisted D2D communications in urban scenarios with rectangular cells
Understanding the GNSS Signal Model
Research output: Scientific - peer-review › Chapter

Uuden sukupolven HF-kommunikaatiotekniikat: Tiivistelmäraportti
Research output: Professional › Commissioned report

Rinne, J., Keskinen, J., Berger, P. R., Lupo, D. & Valkama, M. 2017 In : IEEE Access.
Research output: Scientific - peer-review › Article

In preparation towards future cellular networks: the detailed analysis of macro and micro site densification and sector densification
Research output: Scientific - peer-review › Article

Monitoring intrusion in an area using WIFI-enabled devices
Della Rosa, F. & Nurmi, J. 13 Dec 2016 9520041
Research output: Scientific › Patent

Active RF cancellation of nonlinear TX leakage in FDD transceivers
Research output: Scientific - peer-review › Conference contribution

Digital predistortion for mitigating transmitter-induced receiver desensitization in carrier aggregation FDD transceivers
Research output: Scientific - peer-review › Conference contribution

Efficient Time-Domain Phase Noise Mitigation in cm-Wave Wireless Communications
Research output: Scientific - peer-review › Conference contribution

Fast-convolution filtered OFDM waveforms with adjustable CP length
Research output: Scientific - peer-review › Conference contribution

Methods for phase noise mitigation for DFT-S-OFDM waveforms
Research output: Scientific - peer-review › Conference contribution

Reference receiver enabled digital cancellation of nonlinear out-of-band blocker distortion in wideband receivers
Research output: Scientific - peer-review › Conference contribution

Wireless Optogenetic Neural Dust for Deep Brain Stimulation
Research output: Scientific - peer-review › Conference contribution
FPGA Implementation Issues of a Flexible Synchronizer Suitable for NC-OFDM-Based Cognitive Radios
Research output: Scientific - peer-review › Article

Energy Consumption and Outage Performance Analysis of Heterogeneous Network with Varying Inter-tier Dependence
Research output: Scientific - peer-review › Conference contribution

Compact inband full-duplex relays with beyond 100 dB self-interference suppression: Enabling techniques and field measurements
Research output: Scientific - peer-review › Article

Low-Complexity Subband Digital Predistortion for Spurious Emission Suppression in Noncontiguous Spectrum Access
Research output: Scientific - peer-review › Article

Terahertz band communications: Applications, research challenges, and standardization activities
Research output: Scientific - peer-review › Conference contribution

Feasibility and Fundamental Limits of Energy-Harvesting Based M2M Communications
Research output: Scientific - peer-review › Conference contribution

Integrating Printed and Silicon Electronics
Mäntysalo, M. & Kraft, T. Sep 2016 International Conference on Flexible and Printed Electroncis . Yonezawa, Japan
Research output: Professional › Conference contribution

Location Based Beamforming in 5G Ultra-Dense Networks
Research output: Scientific - peer-review › Conference contribution

Implementation and performance evaluation of graphene-based passive UHF RFID textile tags
Research output: Scientific - peer-review › Conference contribution

Random Triangle: A Baseline Model for Interference Analysis in Heterogeneous Networks
Samuylov, A., Molchanov, D., Gaidamaka, Y., Andreev, S. & Koucheryavy, Y. 1 Aug 2016 In : IEEE Transactions on Vehicular Technology. 65, 8, p. 6778-6782
Research output: Scientific - peer-review › Article

Optimization of Flexible Filter Banks Based on Fast Convolution
Research output: Scientific - peer-review › Article
Performance Considerations for Positioning with Signals of Opportunity
Research output: Scientific - peer-review › Conference contribution

Multilevel outphasing power amplifier system with a transmission-line power combiner
Research output: Scientific - peer-review › Conference contribution

Analysis and Augmented Spatial Processing for Uplink OFDMA MU-MIMO Receiver With Transceiver I/Q Imbalance and External Interference
Research output: Scientific - peer-review › Article

Performance and Cramer-Rao Bounds for DoA/RSS Estimation and Transmitter Localization Using Sectorized Antennas
Research output: Scientific - peer-review › Article

MULTI-POS: Marie Curie Network in Multi-technology Positioning
Research output: Scientific - peer-review › Conference contribution

Data-Parallel Implementation of Reconfigurable Digital Predistortion on a Mobile GPU
Research output: Scientific - peer-review › Conference contribution

Sub-band Digital Predistortion for Noncontiguous Transmissions: Algorithm Development and Real-Time Prototype Implementation
Research output: Scientific - peer-review › Conference contribution

Analysis of a receiver-based reliable broadcast approach for vehicular networks
Research output: Scientific - peer-review › Article

An efficient indoor positioning particle filter using a floor-plan based proposal distribution
Research output: Scientific - peer-review › Conference contribution

Digitally Enhanced Wideband I/Q Downconversion Receiver With 2-Channel Time-Interleaved ADCs
Research output: Scientific - peer-review › Article

Hybrid Renewable Energy Routing for ISP Networks
Research output: Scientific - peer-review › Conference contribution
IEEE 802.11ac MIMO Transceiver Baseband Processing on a VLIW Processor
Research output: Scientific - peer-review › Article

Improving Disturbance Management with Combined Electricity and Mobile Network Situation Awareness System
Research output: Scientific - peer-review › Article

Internet of Things, Smart Spaces, and Next Generation Networks and Systems: 16th International Conference, NEW2AN 2016, and 9th Conference, ruSMART 2016, St. Petersburg, Russia, September 26-28, 2016, Proceedings
Research output: Scientific - peer-review › Anthology

Joint 3D Positioning and Network Synchronization in 5G Ultra-Dense Networks Using UKF and EKF
Research output: Scientific - peer-review › Conference contribution

Multicarrier modulation for HF communications
Research output: Scientific - peer-review › Conference contribution

Optimization of parallel processing intensive digital front-end for IEEE 802.11ac receiver
Research output: Scientific - peer-review › Conference contribution

Parallel processing intensive digital front-end for IEEE 802.11ac receiver
Research output: Scientific - peer-review › Conference contribution

Performance Evaluation of Cyclostationary Based Cooperative Sensing Using Field Measurements
Research output: Scientific - peer-review › Article

Power amplifier effects on frequency localized 5G candidate waveforms
Research output: Scientific - peer-review › Conference contribution

Printed epidermal electronic system
Research output: Scientific › Paper, poster or abstract

Private cloud deployment model in open-source mobile robots ecosystem
Research output: Scientific - peer-review › Conference contribution
Remote Power Piezoresistive Pressure Sensor: Toward Wireless Monitoring of Intracranial Pressure
Research output: Scientific - peer-review › Article

Short range HF radio channel measurements: Search for one path channels
Research output: Scientific - peer-review › Conference contribution

Statistical Trilateration with Skew-t Distributed Errors in LTE Networks
Research output: Scientific - peer-review › Article

The Possibilities of Graphene-Based Passive RFID Tags in High humidity Conditions
Research output: Scientific - peer-review › Conference contribution

Unified Analysis of Cooperative Spectrum Sensing over Composite and Generalized Fading Channels
Research output: Scientific - peer-review › Article

Using Competing Bacterial Communication to Disassemble Biofilms
Research output: Scientific - peer-review › Conference contribution

Energy cooperation for throughput optimization based on save-then-transmit protocol in wireless communication system
Dai, C-Q., Li, F-J. & Renfors, M. 26 Dec 2015 In : Eurasip Journal on Wireless Communications and Networking. 2015, 1, 119
Research output: Scientific - peer-review › Article

Context Awareness for Navigation Applications
Research output: Collection of articles › Doctoral Thesis

A Rigorous Evaluation of Gaussian Process Models for WLAN Fingerprinting
Research output: Scientific - peer-review › Conference contribution

A Comparison of Received Signal Strength Statistics between 2.4 GHz and 5 GHz bands for WLAN-based Indoor Positioning
Research output: Scientific - peer-review › Conference contribution

Hybrid Cooperative Positioning in Harsh Environments
Research output: Scientific - peer-review › Conference contribution

Characterization of Two-Turns External Loop Antenna with Magnetic Core for Efficient Wireless Powering of Cortical Implants
On the Impact of Intra-System Interference for Ranging and Positioning with Bluetooth Low Energy
Research output: Scientific - peer-review › Conference contribution

Room-level indoor positioning with Wi-Fi and RFID fingerprints
Research output: Scientific - peer-review › Conference contribution

Entropy and Channel Capacity under Optimum Power and Rate Adaptation over Generalized Fading Conditions
Research output: Scientific - peer-review › Article

Sectorized antenna-based DoA estimation and localization: Advanced algorithms and measurements
Research output: Scientific - peer-review › Article

SPMA: An innovative solution for future smart networks in macrocellular suburban environment
Research output: Scientific - peer-review › Conference contribution

Modeling and Digital Mitigation of Transmitter Imperfections in Radio Communication Systems
Kiayani, A. 27 Oct 2015 Tampere University of Technology. 97 p. (Tampere University of Technology. Publication; vol. 1332)
Research output: Collection of articles › Doctoral Thesis

Novel Methods for Personal Indoor Positioning
Leppäkoski, H. 27 Oct 2015 Tampere University of Technology. 129 p. (Tampere University of Technology. Publication; vol. 1330)
Research output: Monograph › Doctoral Thesis

Nonlinear Distortion in Wideband Radio Receivers and Analog-to-Digital Converters: Modeling and Digital Suppression
Allen, M. 23 Oct 2015 Tampere University of Technology. 95 p. (Tampere University of Technology. Publication; vol. 1329)
Research output: Collection of articles › Doctoral Thesis

Signal strength readout and miniaturised antenna for metal-mountable UHF RFID threshold temperature sensor tag
Research output: Scientific - peer-review › Article

Capacity, Energy-Efficiency and Cost-Efficiency Aspects of Future Mobile Network Deployment Solutions
Yunas, S. F. 9 Oct 2015 Tampere University of Technology. 122 p. (Tampere University of Technology. Publication; vol. 1323)
Research output: Monograph › Doctoral Thesis

3GPP LTE-assisted Wi-Fi-direct: Trial implementation of live D2D technology
Research output: Scientific - peer-review › Article
Evaluation of SPMA and higher order sectorization for homogeneous SIR through macro sites
Research output: Scientific - peer-review › Article

Performance analysis of IoT-enabling IEEE 802.11ah technology and its RAW mechanism with non-cross slot boundary holding schemes
Research output: Scientific - peer-review › Conference contribution

Molecular Communication Modeling of Antibody-Mediated Drug Delivery Systems
Research output: Scientific - peer-review › Article

Prioritized centrally-controlled resource allocation in integrated multi-RAT HetNets
Research output: Scientific - peer-review › Conference contribution

Wideband self-adaptive RF cancellation circuit for full-duplex radio: Operating principle and measurements
Research output: Scientific - peer-review › Conference contribution

Electro-textiles – The enabling technology for wearable antennas in wireless body-centric sensing systems
Research output: Scientific - peer-review › Conference contribution

Incorporating Bacterial Properties for Plasmid Delivery in Nano Sensor Networks
Research output: Scientific - peer-review › Article

Performance Evaluation of Wearable Passive RFID Tag for Human Indoor Positioning
Research output: Scientific - peer-review › Conference contribution

Digital Self-Interference Cancellation under Nonideal RF Components: Advanced Algorithms and Measured Performance
Research output: Scientific - peer-review › Conference contribution

Indoor Positioning Technology Assessment using Analytic Hierarchy Process for Pedestrian Navigation Services
Research output: Scientific - peer-review › Conference contribution

Received Signal Strength models for WLAN and BLE-based indoor positioning in multi-floor buildings
Research output: Scientific - peer-review › Conference contribution
Receiver Architecture for Cognitive Positioning with CDMA and OFDM signals
Research output: Scientific - peer-review › Conference contribution

Systematic search for design contradictions in systems' architecture: Toward a computer aided analysis
Research output: Scientific - peer-review › Article

Feasibility study of the THz band for communications between wearable electronics
Research output: Scientific - peer-review › Conference contribution

Performance comparison of selected wired and wireless networks on chip architectures
Research output: Scientific - peer-review › Conference contribution

A molecular noise model for THz channels
Research output: Scientific - peer-review › Conference contribution

Distributed power allocation over indoor multi-pico stations
Research output: Scientific - peer-review › Article

Efficient Wireless Microphone sensing: Subband energy detector principle and measured performance
Research output: Scientific - peer-review › Conference contribution

Frequency response mismatch analysis in time-interleaved analog I/Q processing and ADCs
Research output: Scientific - peer-review › Article

On feasibility of coding-based 3GPP LTE coverage enhancements for MTC
Research output: Scientific - peer-review › Conference contribution

5G Multi-RAT LTE-WiFi Ultra-Dense Small Cells: Performance Dynamics, Architecture, and Trends
Research output: Scientific - peer-review › Article

Are all the Access Points necessary in WLAN-based indoor positioning?
Research output: Scientific - peer-review › Conference contribution
Applicability of Frequency Selective Surfaces to Enhance Mobile Network Coverage in Future Energy-Efficient Built Environments
Research output: Scientific - peer-review › Conference contribution

Technologies for Ambient Assisted Living: Ambient Communication and Indoor Positioning
Kivimäki, T. 22 May 2015 Tampere University of Technology. 54 p. (Tampere University of Technology. Publication; vol. 1295)
Research output: Collection of articles › Doctoral Thesis

Integer-to-integer complex extended lapped transform
Research output: Scientific - peer-review › Conference contribution

Recent advances in antenna design and interference cancellation algorithms for in-band full duplex relays
Research output: Scientific - peer-review › Article

Analysis, Blind Identification, and Correction of Frequency Response Mismatch in Two-Channel Time-Interleaved ADCs
Research output: Scientific - peer-review › Article

Measuring angular information by inertial unit arranged to wheel
Collin, J. 4 Apr 2015 FI125167
Research output: Scientific › Patent

Bit error rate of underlay decode-and-forward cognitive networks with best relay selection
Research output: Scientific - peer-review › Article

Research output: Scientific - peer-review › Article

Context-awareness and the smart grid: Requirements and challenges
Research output: Scientific - peer-review › Article
The internet of Bio-Nano things
Research output: Scientific - peer-review › Article

LTE indoor MIMO performances field measurements
Research output: Scientific - peer-review › Conference contribution

Enhanced Spectrum Sensing Techniques for Cognitive Radio Systems
Dikmese, S. 13 Feb 2015 Tampere University of Technology. 86 p. (Tampere University of Technology. Publication; vol. 1280)
Research output: Collection of articles › Doctoral Thesis

Communication challenges in high-density deployments of wearable wireless devices
Research output: Scientific - peer-review › Article

Coarse-grained model of protein interaction for bio-inspired nano-communication
Research output: Scientific - peer-review › Conference contribution

Enhanced OFDM for fragmented spectrum use in 5G systems
Research output: Scientific - peer-review › Article

Social behavior in bacterial nanonetworks: Challenges and opportunities
Research output: Scientific - peer-review › Article

Spectral and energy efficiency of ultra-dense networks under different deployment strategies
Research output: Scientific - peer-review › Article

A Capacity Bound for mmWave-based Channel Access in Ultra-Dense Wearable Deployments
Research output: Scientific - peer-review › Conference contribution

Acquisition of E5 Galileo signals in Matlab
Research output: Scientific - peer-review › Article

Adaptive equalization and Successive self-Interference Cancellation (SIC) methods: The European Commission 7th Framework Programme (FP7) project ICT-318362-EMPhAtiC deliverable D3.2
Research output: Professional › Commissioned report
Research output: Scientific - peer-review › Conference contribution

Advances in statistical channel modeling for wireless communications
Research output: Scientific › Article

Analysis and Design Specifications for Full-Duplex Radio Transceivers under RF Oscillator Phase-Noise with Arbitrary Spectral Shape
Research output: Scientific - peer-review › Article

Analysis of Cognitive Cooperative Networks with Best Relay Selection and Diversity Reception
Research output: Scientific - peer-review › Conference contribution

Analysis of Galileo E1 Receiver Performance with a Power-controlled Front-end
Research output: Scientific - peer-review › Article

Analysis of Noise Uncertainty and Frequency Selectivity Effects in Wideband Multimode Spectrum Sensing
Research output: Scientific - peer-review › Conference contribution

Analytical Performance Evaluation of Cooperative and Multi-Radio Concepts in Emerging Wireless Networks
Galinin, O. 2015 Tampere: Tampere University of Technology. 124 p. (Tampere University of Technology. Publication; vol. 1320)
Research output: Collection of articles › Doctoral Thesis

Analytic Symbol Error Rate Evaluation of M–PSK Based Regenerative Cooperative Networks Over Generalized Fading Channels
Research output: Scientific - peer-review › Conference contribution

Analyzing Assisted Offloading of Cellular User Sessions onto D2D Links in Unlicensed Bands
Research output: Scientific - peer-review › Article

An Analytical Approach to SINR Estimation in Adjacent Rectangular Cells
Research output: Scientific - peer-review › Conference contribution

A Novel Transform for Secret Key Generation in Time-varying TDD Channel under Hardware Fingerprint Deviation
Research output: Scientific - peer-review › Conference contribution
Antennas in Body-Centric Sensor Network Devices
Research output: Scientific - peer-review > Chapter

Application of the nonuniform filterbank for spectrum sensing in a cognitive radio: The European Commission 7th Framework Programme (FP7) project ICT-318362-EMPhAtIC deliverable D8.1
Research output: Professional > Commissioned report

Area under ROC Curve of Energy Detection over Generalized Fading Channels
Research output: Scientific - peer-review > Conference contribution

A Spectrum Sensing Algorithm for Constant Modulus Primary Users Signals
Research output: Scientific - peer-review > Article

Assisted Handover Based on Device-to-Device Communications in 3GPP LTE Systems
Research output: Scientific - peer-review > Conference contribution

AUC study of energy detection based spectrum sensing over η-μ and α-μ fading channels
Research output: Scientific - peer-review > Conference contribution

Cache storage attacks
Brumley, B. B. 2015 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics). Springer Verlag, p. 22-34 13 p. (Lecture Notes in Computer Science; vol. 9048)
Research output: Scientific - peer-review > Conference contribution

Channel Estimation and Equalization in Multi-User Uplink OFDMA and SC-FDMA Systems Under Transmitter RF Impairments
Research output: Scientific - peer-review > Article

Characterizing Fading in Wearable Communications Channels using Composite Models
Research output: Scientific - peer-review > Conference contribution

Coexistence of LTE and WLAN in Unlicensed Bands: Full-Duplex Spectrum Sensing
Research output: Scientific - peer-review > Conference contribution

Combined Electricity and Mobile Network Situation Awareness System for Disturbance Management
Research output: Scientific - peer-review > Conference contribution
Comparison of Detection Techniques for Multipath Propagation of Pseudolite Signals Used in Dense Industrial Environments
Research output: Scientific - peer-review › Article

Compressive Identification of Active OFDM Subcarriers in Presence of Timing Offset
Research output: Scientific - peer-review › Conference contribution

Cooperative Radio Resource Management in Heterogeneous Cloud Radio Access Networks
Research output: Scientific - peer-review › Article

Covariance-based OFDM spectrum sensing with sub-Nyquist samples
Research output: Scientific - peer-review › Article

Data Rate Performance of Droplet Microfluidic Communication System
Research output: Scientific - peer-review › Conference contribution

Delayed key exchange for constrained smart devices
Research output: Scientific - peer-review › Conference contribution

Design and Implementation of a Power-aware FFT Core for OFDM-based DSA-enabled Cognitive Radios
Research output: Scientific - peer-review › Article

Digital Mitigation of Transmitter-Induced Receiver Desensitization in Carrier Aggregation FDD Transceivers
Research output: Scientific - peer-review › Article

Digital Signal Transmission in Magnetic Induction Based Wireless Underground Sensor Networks
Feasibility analysis of ITU-T P.1201 Amd.2 standard for video on demand services
Research output: Scientific - peer-review › Conference contribution

Flexible Digital Predistortion for Future Spectrally-Agile Waveforms and 5G Radio Systems
Research output: Scientific - peer-review › Conference contribution

Flexible fast-convolution implementation of single-carrier waveform processing for 5G
Research output: Scientific - peer-review › Conference contribution

Hybrid WLAN-RFID indoor Localization Solution Utilizing Textile Tag
Research output: Scientific - peer-review › Article

Implementation of IEEE-802.11a/g receiver blocks on a coarse-grained reconfigurable array
Research output: Scientific - peer-review › Conference contribution

Interference Analysis and Performance Evaluation of 5G Flexible-TDD based Dense Small-Cell System
Research output: Scientific - peer-review › Conference contribution

Interference and SINR in Dense Terahertz Networks
Petrov, V., Moltchanov, D. & Koucheryavy, Y. 2015 2015 IEEE 82nd Vehicular Technology Conference (VTC2015-Fall). IEEE
Research output: Scientific - peer-review › Conference contribution

Internet of Things, Smart Spaces, and Next Generation Networks and Systems: 15th International Conference, NEW2AN 2015, and 8th Conference, ruSMART 2015, St. Petersburg, Russia, August 26-28, 2015, Proceedings
Research output: Scientific - peer-review › Anthology

IoT Use Cases in Healthcare and Tourism
Research output: Scientific - peer-review › Conference contribution

Joint Cooling and Information Transmission for Board-to-Board Communications
Research output: Scientific - peer-review › Conference contribution

K-Means Fingerprint Clustering for Low-Complexity Floor Estimation In Indoor Mobile Localization
Research output: Scientific - peer-review › Conference contribution
Low-Complexity Digital Correction of 4-Channel Time-Interleaved ADC Frequency Response Mismatch using Adaptive I/Q Signal Processing
Research output: Scientific › peer-review › Conference contribution

Low-profile head-worn antenna with a monopole-like radiation pattern
Research output: Scientific › peer-review › Article

LTE Performance Analysis Using Queuing Systems with Finite Resources and Random Requirements
Research output: Scientific › peer-review › Conference contribution

MIMO channel estimation and data detection: The European Commission 7th Framework Programme (FP7) project ICT-318362-EMPhAtiC deliverable D4.2
Research output: Professional › Commissioned report

Mobile GPU Accelerated Digital Predistortion on a Software-defined Mobile Transmitter
Research output: Scientific › peer-review › Conference contribution

Multi-Antenna Interference Cancellation for Black Space Cognitive Radio Communications
Research output: Scientific › peer-review › Conference contribution

Multimode, non-uniform filterbank: The European Commission 7th Framework Programme (FP7) project ICT-318362-EMPhAtiC deliverable D2.2
Research output: Professional › Commissioned report

Network-Assisted Device-to-Device Connectivity: Contemporary Vision and Open Challenges
Research output: Scientific › peer-review › Conference contribution

Novel Indoor Positioning Mechanism via Spectral Compression
Research output: Scientific › peer-review › Article

On capacity of active relaying in magnetic induction based wireless underground sensor networks
Research output: Scientific › peer-review › Conference contribution

On Capturing Spatial Diversity of Joint M2M/H2H Dynamic Uplink Transmissions in 3GPP LTE Cellular System
Resource Management Schemes for Network Assisted Device-to-Device Communication for an Integrated OFDMA Cellular System

Service Failure and Interruption Probability Analysis for Licensed Shared Access Regulatory Framework

Signal Processing Algorithms for FFT-based GNSS Receivers
Soltanian, B. 2015 Tampere: Tampere University of Technology. 107 p. (Tampere University of Technology. Publication; vol. 1321)

Simultaneous Transmission and Spectrum Sensing in OFDM Systems Using Full-Duplex Radios

Software simulations and experiments: The European Commission 7th Framework Programme (FP7) project ICT-318362-EMPhAtiC deliverable D9.2

Simplified Probabilistic Modelling and Analysis of Enhanced Distributed Coordination Access in IEEE 802.11

Spectrum sensing in generalized multipath fading conditions using square-law combining

Start-up and Frequency Stability Analysis using Time-Varying Root Locus
Jain, S. & Tchamov, N. 2015 In : IEICE Electronics Express. 12, 22, 12.20150661

Statistical Sensor Fusion of Ultra Wide Band Ranging and Real Time Kinematic Satellite Navigation

Study of the Duty Cycle Challenges for Short Range Devices Deployment Based on the IEEE 802.11ah in M2M and IoT Network
Subband Energy Based Reduced Complexity Spectrum Sensing under Noise Uncertainty and Frequency-Selective Spectral Characteristics

Techno-Economical Comparison of Dynamic DAS and Legacy Macrocellular Densification: Capacity and Cost-Efficiency Analysis of Alternative Deployment Solutions for Outdoor Service Provisioning

The effects of RF impairments in Vehicle-to-Vehicle Communications

The $\eta - \mu$ / Inverse Gamma Composite Fading Model

The $\kappa - \mu$ / Inverse Gamma Fading Model

Training design and algorithms for channel estimation: The European Commission 7th Framework Programme (FP7) project ICT-318362-EMPhAtiC deliverable D3.1

Understanding Practical Limitations of Network Coding for Assisted Proximate Communication

Understanding the IoT connectivity landscape: a contemporary M2M radio technology roadmap

Unified Analysis of Cooperative Spectrum Sensing over Generalized Multipath Fading Channels

User’s happiness in numbers: Understanding mobile YouTube quality expectations
WarmPie: A bare-bones implementation of message passing interface for embedded many-cores
Research output: Scientific - peer-review › Conference contribution

Wireless Authentication using OPACITY Protocol
Research output: Scientific - peer-review › Conference contribution

Vehicle Positioning
Collin, J. 15 Dec 2014 FI124697B
Research output: Scientific › Patent

Efficient User, Service, or Content Representation for Device Communication
Research output: Scientific › Patent

Precoded Massive MU-MIMO Uplink Transmission under Transceiver I/Q Imbalance
Research output: Scientific - peer-review › Conference contribution

Method and Apparatus for Communicating with Smart Objects
Savolainen, T., Reunamäki, J. & Silverajan, B. 9 Oct 2014 20140304381
Research output: Scientific › Patent

Method and apparatus for determining environmental context utilizing features obtained by multiple radio receivers
Research output: Scientific › Patent

Interference suppression with antenna arrays in OFDM systems under transceiver I/Q imbalance
Research output: Scientific - peer-review › Conference contribution

Reconfigurable antenna based DOA estimation and localization in cognitive radios: Low complexity algorithms and practical measurements
Research output: Scientific - peer-review › Conference contribution

Co-modeling of embedded networks using systemc and SDL: From theory to practice
Research output: Scientific - peer-review › Chapter

A blind frequency response mismatch correction algorithm for 4-channel Time-Interleaved ADC
Research output: Scientific - peer-review › Conference contribution
Adaptive mobile tracking in unknown non-line-of-sight conditions with application to digital TV networks
Research output: Scientific - peer-review › Article

Analysis and Rate Optimization of OFDM-Based Cognitive Radio Networks Under Power Amplifier Nonlinearity
Research output: Scientific - peer-review › Article

Analysis of Channel Non-Reciprocity Due to Transceiver and Antenna Coupling Mismatches in TDD Precoded Multi-User MIMO-OFDM Downlink
Research output: Scientific - peer-review › Conference contribution

Analysis of Oscillator Phase-Noise Effects on Self-Interference Cancellation in Full-Duplex OFDM Radio Transceivers
Research output: Scientific - peer-review › Article

Analytic Expressions and Bounds for Special Functions and Applications in Communication Theory
Research output: Scientific - peer-review › Article

Analytic performance evaluation of M-QAM based decode-and-forward relay networks over enriched multipath fading channels
Research output: Scientific - peer-review › Conference contribution

Analytic solutions to a Marcum Q-function-based integral and application in energy detection of unknown signals over multipath fading channels
Research output: Scientific - peer-review › Conference contribution

Analyzing Impacts of Coexistence between M2M and H2H Communication on 3GPP LTE System
Research output: Scientific - peer-review › Conference contribution

Analyzing the overload of 3GPP LTE system by diverse classes of connected-mode MTC devices
Research output: Scientific - peer-review › Conference contribution

Antibody-based molecular communication for targeted drug delivery systems
Research output: Scientific - peer-review › Conference contribution
A PET project from Finland: Automating GNSS receiver testing
Research output: Scientific › Article

A roadmap for traffic engineering in software defined networks
Research output: Scientific - peer-review › Article

A routing framework for energy harvesting wireless nanosensor networks in the Terahertz Band
Research output: Scientific - peer-review › Article

A statistical-physical model of interference in diffusion-based molecular nanonetworks
Research output: Scientific - peer-review › Article

Capturing Spatial Randomness of Heterogeneous Cellular/WLAN Deployments With Dynamic Traffic
Research output: Scientific - peer-review › Article

Cell planning for outdoor distributed antenna systems in dense urban areas
Research output: Scientific - peer-review › Conference contribution

Cellular traffic offloading onto network-assisted device-to-device connections
Research output: Scientific - peer-review › Article

Closed-form Analysis of Channel Non-Reciprocity Due to Transceiver and Antenna Coupling Mismatches in Multi-user Massive MIMO Network
Research output: Scientific - peer-review › Conference contribution

Delay-based Congestion Control Mechanism for Video Services: Mechanism including Backward Loading and Real-time Modes
Research output: Scientific - peer-review › Conference contribution

Delivering uniform connectivity and service experience to converged 5G wireless networks
Research output: Scientific - peer-review › Conference contribution

Dense Small-Cell Networks: Rethinking the Radio Interface Beyond LTE-Advanced
Research output: Scientific - peer-review › Conference contribution
Deployment strategies and performance analysis of Macrocell and Femtocell networks in suburban environment with modern buildings
Research output: Scientific - peer-review > Conference contribution

Digital post-processing based wideband receiver linearization for enhanced spectrum sensing and access
Research output: Scientific - peer-review > Conference contribution

Digital Suppression of Power Amplifier Spurious Emissions at Receiver Band in FDD Transceivers
Research output: Scientific - peer-review > Article

Distance-aware multi-carrier (DAMC) modulation in Terahertz Band communication
Research output: Scientific - peer-review > Conference contribution

DSP-Based Suppression of Spurious Emissions At RX Band in Carrier Aggregation FDD Transceivers
Research output: Scientific - peer-review > Conference contribution

Editorial
Research output: Scientific - peer-review > Article

Editorial
Research output: Scientific - peer-review > Article

Editorial
Research output: Scientific - peer-review > Article

Effects of Radio Front-end PLL Phase Noise on GNSS Baseband Correlation
Research output: Scientific - peer-review > Article

Efficient Estimation and Compensation of Transceiver Non-Reciprocity in Precoded TDD Multi-User MIMO-OFDM Systems
Research output: Scientific - peer-review > Conference contribution

Efficient Estimation and Pilot-Free Online Re-Calibration of I/Q Imbalance in Broadband Direct-Conversion Transmitters
Research output: Scientific - peer-review > Article

End-to-end propagation noise and memory analysis for molecular communication over microfluidic channels
Research output: Scientific - peer-review > Article
Energy Detection under IQ Imbalance with Single- and Multi-Channel Direct-Conversion Receiver: Analysis and Mitigation
Research output: Scientific - peer-review » Article

Research output: Scientific - peer-review » Conference contribution

Feasibility of in-band full-duplex radio transceivers with imperfect RF components: Analysis and enhanced cancellation algorithms
Research output: Scientific - peer-review » Conference contribution

Femtosecond-long pulse-based modulation for terahertz band communication in nanonetworks
Research output: Scientific - peer-review » Article

Frequency-Selective Digital Predistortion for Unwanted Emission Reduction
Research output: Scientific - peer-review » Article

Full-Duplex Transceiver System Calculations: Analysis of ADC and Linearity Challenges
Research output: Scientific - peer-review » Article

Graphene-based plasmonic nano-transceiver for terahertz band communication
Research output: Scientific - peer-review » Conference contribution

IEEE 802.11ac MIMO Receiver Baseband Processing on Customized VLIW Processor
Research output: Scientific - peer-review » Conference contribution

Impact of modern construction materials on radio signal propagation: Practical measurements and network planning aspects
Research output: Scientific - peer-review » Conference contribution

Impact of received signal on self-interference channel estimation and achievable rates in in-band full-duplex transceivers
Research output: Scientific - peer-review » Conference contribution

Impact of VANET-Based V2X Communication Using IEEE 802.11p on Reducing Vehicles Traveling Time in Realistic Large Scale Urban Area
Improving network connectivity in the presence of heavy-tailed interference
Research output: Scientific - peer-review › Article

Intelligent access network selection in converged multi-radio heterogeneous networks
Research output: Scientific - peer-review › Article

Internet of Things, Smart Spaces, and Next Generation Networks and Systems. 14th International Conference, NEW2AN 2014 and 7th Conference, nuSMART 2014, St. Petersburg, Russia, August 27-29, 2014. Proceedings
Research output: Scientific - peer-review › Anthology

Joint Mitigation of Nonlinear RF and Baseband Distortions in Wideband Direct-Conversion Receivers
Research output: Scientific - peer-review › Article

Low-complexity digital predistortion for reducing power amplifier spurious emissions in spectrally-agile flexible radio
Research output: Scientific - peer-review › Conference contribution

Low latency radio interface for 5G flexible TDD local area communications
Research output: Scientific - peer-review › Conference contribution

Low power implementation of digital predistortion filter on a heterogeneous application specific multiprocessor
Research output: Scientific - peer-review › Conference contribution

LTE-Advanced and the evolution to Beyond 4G (B4G) systems
Research output: Scientific - peer-review › Article
Maximum-minimum energy based spectrum sensing under frequency selectivity for Cognitive Radios  
Research output: Scientific - peer-review › Conference contribution

M/D[y]/1 Periodically gated vacation model and its application to IEEE 802.16 network  
Research output: Scientific - peer-review › Article

Measurement campaign for collaborative sensing using cyclostationary based mobile sensors  
Research output: Scientific - peer-review › Conference contribution

Modeling and Efficient Cancellation of Nonlinear Self-Interference in MIMO Full-Duplex Transceivers  
Research output: Scientific - peer-review › Conference contribution

Modeling contention-based M2M transmissions over 3GPP LTE cellular networks  
Research output: Scientific - peer-review › Conference contribution

Modeling Unreliable LSA Operation in 3GPP LTE Cellular Networks  
Research output: Scientific - peer-review › Conference contribution

Molecular communication noise and capacity analysis for particulate drug delivery systems  
Research output: Scientific - peer-review › Article

Multi-channel energy detection under phase noise: analysis and mitigation  
Research output: Scientific - peer-review › Article

Multi-radio heterogeneous networks: Architectures and performance  
Research output: Scientific - peer-review › Conference contribution

Multi-user frequency allocation with wideband power amplifier models  
Research output: Scientific - peer-review › Conference contribution
Nanonetworks editorial for 2013
Research output: Scientific - peer-review › Article

Network-Assisted D2D Communications: Implementing a Technology Prototype for Cellular Traffic Offloading
Research output: Scientific - peer-review › Conference contribution

Network-Assisted D2D Over WiFi Direct
Research output: Scientific - peer-review › Chapter

New Spectrally and Energy Efficient Flexible TDD Based Air Interface for 5G Small Cells
Research output: Scientific - peer-review › Conference contribution

On modulation for magnetic induction based transmission in wireless underground sensor networks
Research output: Scientific - peer-review › Conference contribution

On receiver design for diffusion-based molecular communication
Research output: Scientific - peer-review › Article

Research output: Scientific - peer-review › Conference contribution

On the Optimal Assisted Rate Allocation in N-Tier Multi-RAT Heterogeneous Networks
Research output: Scientific - peer-review › Conference contribution

Optimal energy-throughput efficiency for magneto-inductive underground sensor networks
Research output: Scientific - peer-review › Conference contribution

Optimized Power Allocation and Spectrum Sharing in Device to Device underlaying Cellular Systems
Research output: Scientific - peer-review › Conference contribution

Optimizing energy efficiency of a multi-radio mobile device in heterogeneous beyond-4G networks
Research output: Scientific - peer-review › Article

Performance Analysis of Primary User RSS/DoA Estimation and Localization in Cognitive Radio Networks Using Sectorized Antennas
Research output: Scientific - peer-review › Article

Performance Enhancement and Evaluation of IEEE 802.11ah Multi-Access Point Network Using Restricted Access Window Mechanism
Research output: Scientific - peer-review › Conference contribution

Performance evaluation of IEEE 802.11ah and its restricted access window mechanism
Research output: Scientific - peer-review › Conference contribution

Performance evaluation of MDT assisted LTE RF fingerprint framework
Research output: Scientific - peer-review › Conference contribution

Phase noise mitigation in OFDMA uplink
Research output: Scientific - peer-review › Conference contribution

Predicting user QoE satisfaction in current mobile networks
Research output: Scientific - peer-review › Conference contribution

Radio Interface Design for Ultra-Low Latency Millimeter-Wave Communications in 5G Era
Research output: Scientific - peer-review › Conference contribution

Radio Interface Evolution towards 5G and Enhanced Local Area Communications
Research output: Scientific - peer-review › Article

Reduced-complexity power amplifier linearization for carrier aggregation mobile transceivers
Research output: Scientific - peer-review › Conference contribution

Reference Receiver Based Digital Self-Interference Cancellation in MIMO Full-Duplex Transceivers
Research output: Scientific - peer-review › Conference contribution

Signature-assisted rendezvous in OFDM-based cognitive networks using sub-Nyquist samples
Research output: Scientific - peer-review › Conference contribution
Spectral Efficiency of Dynamic DAS with Extreme Down-tilt Antenna Configuration
Research output: Scientific - peer-review › Conference contribution

Techno-economical analysis and comparison of legacy and ultra-dense small cell networks
Research output: Scientific - peer-review › Conference contribution

Terahertz band: Next frontier for wireless communications
Research output: Scientific - peer-review › Article

TeraNets: Ultra-broadband communication networks in the terahertz band
Research output: Scientific - peer-review › Article

The Area Under a Receiver Operating Characteristic Curve Over Enriched Multipath Fading Conditions
Research output: Scientific - peer-review › Conference contribution

Throughput of the magnetic induction based wireless underground sensor networks: Key optimization techniques
Research output: Scientific - peer-review › Article

Transmitter-side channel estimation in magnetic induction based communication systems
Research output: Scientific - peer-review › Conference contribution

Two Approaches to Analyzing Dynamic Cellular Networks with Limited Resources
Research output: Scientific - peer-review › Conference contribution

User Guided Energy and Capacity Optimization in UMTS Mobile Networks
Research output: Scientific - peer-review › Conference contribution

User’s Happiness in Numbers: Understanding Mobile YouTube Quality Expectations
Research output: Scientific - peer-review › Conference contribution

Video-based safety manual for personal guidance
Widely Linear Digital Self-Interference Cancellation in Direct-Conversion Full-Duplex Transceiver

Wireless Sensor Network Based Smart Home System over BLE with Energy Harvesting Capability

A cross-layer communication module for the Internet of Things

Active self-interference cancellation of passband signals using gradient descent

Ad Hoc Networks editorial for 2012

A differential coding-based scheduling framework for wireless multimedia sensor networks

Advanced self-interference cancellation and multiantenna techniques for full-duplex radios

A molecular communication system model for particulate drug delivery systems

Asymptotic queuing analysis for dynamic spectrum access networks in the presence of heavy tails

Blackseacom 2013, communications and networking in the land of "Golden Fleece"

Cancellation of power amplifier induced nonlinear self-interference in full-duplex transceivers
Multiuser resource allocation optimization using bandwidth-power product in cognitive radio networks
Research output: Scientific - peer-review › Article

On the throughput of Wireless Underground Sensor Networks using magneto-inductive waveguides
Research output: Scientific - peer-review › Conference contribution

Optimal deployment for magnetic induction-based wireless networks in challenged environments
Research output: Scientific - peer-review › Article

Optimal primary-user mobility aware spectrum sensing design for cognitive radio networks
Research output: Scientific - peer-review › Article

Radio access network energy minimization in multi-layer heterogeneous wireless systems
Research output: Scientific - peer-review › Conference contribution

Reinforcement learning for cooperative sensing gain in cognitive radio ad hoc networks
Research output: Scientific - peer-review › Article

System-theoretic analysis and least-squares design of microfluidic channels for flow-induced molecular communication
Research output: Scientific - peer-review › Article

TCP CRAHN: A transport control protocol for cognitive radio ad hoc networks
Research output: Scientific - peer-review › Article

Traffic-aware utility based QoS provisioning in OFDMA hybrid smallcells
Research output: Scientific - peer-review › Conference contribution

A complete femtocell network modeling and development platform
Research output: Scientific - peer-review › Conference contribution

A diffusion-based binary digital communication system
Research output: Scientific - peer-review › Conference contribution

A receiver architecture for pulse-based electromagnetic nanonetworks in the Terahertz Band
Research output: Scientific - peer-review › Conference contribution

Correlation-aware QoS routing with differential coding for wireless video sensor networks
Research output: Scientific - peer-review › Article
Correlation-aware user selection for cooperative spectrum sensing in cognitive radio ad hoc networks
Research output: Scientific - peer-review › Article

Dynamic cooperator selection in cognitive radio networks
Research output: Scientific - peer-review › Article

Editorial
Research output: Scientific - peer-review › Article

Editorial
Research output: Scientific - peer-review › Article

Editorial
Research output: Scientific - peer-review › Article

Interference effects on modulation techniques in diffusion based nanonetworks
Research output: Scientific - peer-review › Article

Intersymbol and co-channel interference in diffusion-based molecular communication
Research output: Scientific - peer-review › Conference contribution

Joint energy harvesting and communication analysis for perpetual wireless nanosensor networks in the terahertz band
Research output: Scientific - peer-review › Article

MIMO communications based on molecular diffusion
Research output: Scientific - peer-review › Conference contribution

Monaco: Fundamentals of molecular nano-communication networks
Research output: Scientific - peer-review › Article

Multiagent jamming-resilient control channel game for cognitive radio ad hoc networks
Research output: Scientific - peer-review › Conference contribution

Network stability of cognitive radio networks in the presence of heavy tailed traffic
Research output: Scientific - peer-review › Conference contribution

On capacity of magnetic Induction-based wireless underground sensor networks
Research output: Scientific - peer-review › Conference contribution
On the origins of heavy-tailed delay in dynamic spectrum access networks
Research output: Scientific - peer-review › Article

OPERA: Optimal routing metric for cognitive radio ad hoc networks
Research output: Scientific - peer-review › Article

Optimal detection for diffusion-based communications in the presence of ISI
Research output: Scientific - peer-review › Conference contribution

Spatio-temporal estimation for interference management in femtocell networks
Research output: Scientific - peer-review › Conference contribution

Spectrum-aware mobility management in cognitive radio cellular networks
Research output: Scientific - peer-review › Article

Terahertz channel modeling of underground sensor networks in oil reservoirs
Research output: Scientific - peer-review › Conference contribution

The internet of multimedia Nano-Things
Research output: Scientific - peer-review › Article

The internet of multimedia nano-things in the terahertz band
Research output: Scientific - peer-review › Conference contribution

A mode-based approach for channel modeling in underground tunnels under the impact of vehicular traffic flow
Research output: Scientific - peer-review › Article

A spatial correlation-based image compression framework for wireless multimedia sensor networks
Research output: Scientific - peer-review › Article

A spectrum decision framework for cognitive radio networks
Research output: Scientific - peer-review › Article

Automata modeling of Quorum Sensing for nanocommunication networks
Research output: Scientific - peer-review › Article
Bio-inspired synchronization for nanocommunication networks
Research output: Scientific - peer-review › Conference contribution

BorderSense: Border patrol through advanced wireless sensor networks
Research output: Scientific - peer-review › Article

Can dynamic spectrum access induce heavy tailed delay?
Research output: Scientific - peer-review › Conference contribution

Capacity and outage analysis of MIMO and cooperative communication systems in underground tunnels
Research output: Scientific - peer-review › Article

Channel modeling and capacity analysis for electromagnetic wireless nanonetworks in the terahertz band
Research output: Scientific - peer-review › Article

Cognitive radio resource management exploiting heterogeneous primary users
Research output: Scientific - peer-review › Conference contribution

Computer Networks: Editorial
Research output: Scientific - peer-review › Article

Cooperative spectrum sensing in cognitive radio networks: A survey
Research output: Scientific - peer-review › Article

CRP: A routing protocol for cognitive radio ad hoc networks
Research output: Scientific - peer-review › Article

Diffusion-based noise analysis for molecular communication in nanonetworks
Research output: Scientific - peer-review › Article

Dynamic connectivity in wireless underground sensor networks
Research output: Scientific - peer-review › Article

Editorial
Research output: Scientific - peer-review › Article

Information capacity of diffusion-based molecular communication in nanonetworks
Research output: Scientific - peer-review › Conference contribution
Information capacity of pulse-based Wireless Nanosensor Networks
Research output: Scientific - peer-review › Conference contribution

Low-weight channel coding for interference mitigation in electromagnetic nanonetworks in the terahertz band
Research output: Scientific - peer-review › Conference contribution

MISE-PIPE: Magnetic induction-based wireless sensor networks for underground pipeline monitoring
Research output: Scientific - peer-review › Article

Mobile relay and group mobility for 4G WiMAX networks
Research output: Scientific - peer-review › Conference contribution

Modulation techniques for communication via diffusion in nanonetworks
Research output: Scientific - peer-review › Conference contribution

Nanonetworks: A new frontier in communications
Research output: Scientific - peer-review › Article

Noise analysis in ligand-binding reception for molecular communication in nanonetworks
Research output: Scientific - peer-review › Article

OFDM-based common control channel design for cognitive radio ad hoc networks
Research output: Scientific - peer-review › Article

On network connectivity of wireless sensor networks for sandstorm monitoring
Research output: Scientific - peer-review › Article

Percolation theory based connectivity and latency analysis of cognitive radio ad hoc networks
Research output: Scientific - peer-review › Article

Primary user activity modeling using first-difference filter clustering and correlation in cognitive radio networks
Research output: Scientific - peer-review › Article

Primary-user mobility impact on spectrum sensing in cognitive radio networks
Research output: Scientific - peer-review › Conference contribution

Spatial correlation and mobility-aware traffic modeling for wireless sensor networks
Research output: Scientific - peer-review › Article
Spatio-temporal correlation-based density optimization in wireless underground sensor networks
Research output: Scientific - peer-review › Conference contribution

Topology analysis of wireless sensor networks for sandstorm monitoring
Research output: Scientific - peer-review › Conference contribution

Visual correlation-based image gathering for wireless multimedia sensor networks
Research output: Scientific - peer-review › Conference contribution