



Stefano Tomasin

curriculum vitae

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• Short Biography

Stefano Tomasin was born in Venice (July 26, 1975), received the Laurea degree and the Ph.D. degree in Telecommunications Engineering from the University of Padova, Italy, in 1999 and 2003, respectively. In the Academic year 1999-2000 he was on leave at the IBM Research Laboratory, Zurich, Switzerland, doing research on signal processing for magnetic recording systems. In the Academic year 2001-2002 he was on leave at Philips Research, Eindhoven, the Netherlands, studying multicarrier transmission for mobile applications. He joined University of Padova first as contractor researcher for a national research project (2002), then as Assistant Professor (2005), and since 2016 he is an Associate Professor. In the second half of 2004 he was visiting faculty at Qualcomm, San Diego (CA) doing research on mobile cellular systems. In 2007 he has been visiting Polytechnic University in Brooklyn, NY, working with Prof. Elza Erkip on cooperative networks. From December 2014 to December 2015, he has been on a sabbatical leave at the Mathematical and Algorithmic Sciences Laboratory, France Research Center of Huawei Technologies, in Boulogne-Billancourt, France, working on signal processing technologies for 5G cellular systems. His current research interests include physical layer security, security of global navigation satellite systems, signal processing for wireless communications, synchronization, scheduling of communication resources. He is senior member of IEEE since 2011 (member since 1999), and member of EURASIP since 2011. Between 2011 and 2016 he has been Editor of the IEEE Transactions on Vehicular Technologies. Since 2011 he is Editor of EURASIP Journal of Wireless Communications and Networking and since 2017 he is Editor of the IEEE Transactions on Signal Processing.

• Education

Ph. D. degree (February 14, 2003)

Telecommunication Engineering

Doctoral degree obtained from University of Padova, Italy. Thesis title: "Frequency domain equalization and channel estimation for broadband wireless communications". Supervisor: Prof. Nevio Benvenuto.

Laurea degree (July 6, 1999)

Telecommunication Engineering

5-year University degree obtained summa cum laude from University of Padova, Italy. Thesis title: "Metodi di equalizzazione per sistemi OFDM" (Equalization methods for OFDM systems). Supervisor: Prof. Nevio Benvenuto.



• Qualifications

Italian Professor Qualification

April 5, 2017

Teaching4Learning@Unipd

Jan. 2017

Italian Professor Qualification

December 12, 2013

Qualification for the Engineer Board

2nd session, year 2000

Abilitazione scientifica nazionale for the position of Full Professor in Telecommunications (sector 09/F2).

Training course within the Teaching4Learning@Unipd project. The aims of the project are: to develop teaching skills for faculty in higher education, and to encourage the creation of Faculty Learning Communities (FLC) in order to share experiences of good teaching practices, and to promote teaching innovation in higher education.

Abilitazione scientifica nazionale for the position of Associate Professor in Telecommunications (sector 09/F2).

Qualification exam for the Italian Engineers' Board (*Esame di stato per l'abilitazione alla professione di ingegnere*).

• Current Position

University of Padova, Italy

Since Jan. 15, 2016

Associate Professor at the Department of Information Engineering (DEI), University of Padova.

• Past Positions

University of Padova, Italy

Jan. 2005 – Jan. 2016

Assistant Professor at the Department of Information Engineering (DEI) of University of Padova.

Huawei Technologies, Boulogne-Billancourt France

Dec. 2014 – Dec. 2015

Team leader at the Mathematical and Algorithmic Sciences Laboratory, France Research Center of Huawei Technologies, working on technologies for 5G cellular systems.

Polytechnic University, Brooklyn, NY

Sept. 2007 – Dec. 2007

Visiting faculty, guest of Prof. Elza Erkip, doing research on cooperative networks and security in cooperative networks.

Qualcomm inc., San Diego, CA

June 2004 – Dec. 2004

Visiting faculty under the supervision of Dr. Roberto Padovani, doing research on multiuser detection for the uplink of cellular systems based on CDMA technology.

University of Padova, Italy

Jan. 2003 – Dec. 2004

Post-doc contractor under the supervision of Prof. Silvano Pupolin, within the project FIRB "PRIMO" (Reconfigurable Platforms for wideband wireless communications) Italian university ministry, doing research on multicarrier cellular systems.

Philips Research Lab., Eindhoven, The Netherlands

Oct. 2001 – Jun. 2002

Ph.D. student intern at Eindhoven (NL) under the supervision of Dr. Jean-Paul Linnartz, doing research on Doppler compensation for OFDM with application to mobile digital terrestrial television receivers.



**IBM Zurich Research Lab.,
Zurich, Switzerland**
Oct. 1999 – Jan. 2000

Intern under the supervision of Dr. Evangelos Eleftheriou, working on performance evaluation of error control coding in magnetic recording systems.

• Language Skills

English

Certified B2 level. Extended leaves at workplaces where English was the official language (3 months in Zürich, 9 months in Eindhoven, 6 months in San Diego, 3 months in New York, and 1 year in Paris), frequent international contacts, and courses taught in English ensure full control of this language.

Italian

Mother language.

• Awards

Best Paper Awards

- Best paper award at the International Conference on Ubiquitous and Future Networks (ICUFN 2018), Prague, Czech Republic, July 2018.
- Co-author of the best student paper award at the IEEE/ION Position Location and Navigation Symposium, Monterey, California, April 2018.
- Co-author of the best student paper award at the Int. Symp. Bioelectronics and Bioinformatics (ISBB2009), Melbourne, Australia, Dec. 2009.

Other Awards

- Recipient of financing by the Fondo di finanziamento per le attività base di ricerca (FFABR) in 2017.
- Exemplary Reviewer Award from IEEE Communications Letters, 2011.
- Reviewer appreciation award from the IEEE Transactions on Signal Processing, 2008.
- Carlo Offelli Award 2005: awarded best young researcher at the Department of Information Engineering, University of Padova.
- Regional Innovation Award 2004: awarded for the best doctoral thesis by the Veneto Region.
- Carlo Offelli Award 2003: nominated among the best five young researcher at the Department of Information Engineering, University of Padova.



• Editorial Activity

Guest Editorial Activity

- **Guest Editor** of the Special issue on Information-Theoretic Security, Entropy, 2017.
- **Guest Editor** of the Special issue on Physical Layer Security and its Applications, Proceedings of IEEE, Oct. 2015.

Journal Editorial Activity

- **Associate Editor** of IEEE Transactions on Signal Processing since Jan. 2017.
- **Associate Editor** of IEEE Transactions on Vehicular Technologies from Nov. 2011 to Sept. 2017.
- **Associate Editor** of EURASIP Journal of Wireless Communications and Networking since 2011.
- **Editor** of the ISRN Communications and Networking Journal from 2007 to 2012.
- **Reviewer** for various international Journals, including:
 - European Trans. on Telecommunications
 - IEEE Commun. Letters
 - IEEE Journal on Select Areas in Communications
 - IEEE Signal Processing Letters
 - IEEE Trans. on Communications
 - IEEE Trans. on Signal Processing
 - IEEE Trans. on Vehicular Technologies
 - IEEE Trans. on Wireless Communications
 - IEEE Trans. on Control Systems Technology
 - IEEE Trans. Information Forensics and Security
 - ISRN Communications and Networking
 - Springer Wireless Networks
 - Elsevier Signal Processing

Conference TPC Chair

- Organizer of the second Workshop on Communication Security (WCS) within the EUROCRYPT conference, Apr. 2017, Paris, France.
- Organizer of the IEEE Workshop on Wireless Physical Layer Security (WPLS) at the IEEE International Conference on Communications (ICC) June 2015, London, UK.
- Organizer of Workshop on Communication Security (WCS) within the ESCAPADE project, Sept. 2014, Ancona, Italy.
- TPC Chair IEEE Vehicular Technology Conference 2008-Fall, Transmission Technology Track.



Conference TPC Member

- International Conference on Advances in Computing, Communications and Informatics: 2019.
- International Conference on Wireless Communications and Signal Processing (WCSP): 2018.
- IEEE Global Conference on Signal and Information Processing (GLOBALSIP): 2018.
- International Conference on Signal Processing and Communication (ICSC): 2019.
- IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC): 2020-2017.
- International Conference on Computing and Network Communications (CoCoNet): 2018.
- European Wireless (EW): 2019, 2018.
- IEEE International Conference on Communications (ICC): 2019-2014.
- IEEE Global Conference on Communication (GLOBECOM): 2019-2013, 2011, 2009, 2007.
- IEEE CNS Workshop on Physical-layer Methods for Wireless Security: 2016.
- IEEE GLOBECOM Workshop on Trusted Communications with Physical Layer Security: 2016, 2017.
- IEEE Vehicular Technology Conference (VTC): 2019-2018, 2006-Spring.
- IEEE WiComSec-Phy 2015 - Workshop on Wireless Communication Security at the Physical Layer (jointly with Mobiquitous'15).
- IEEE Wireless Communication and Networking Conference (WCNC): 2020-2014, 2012, 2009.
- ACM Q2SWinet 2014.
- ChinaCom 2008.
- IEEE International Workshop on Networking Issues in Multimedia Entertainment (NIME): 2006, 2004.
- IEEE SmartGridComm 2017, 2015, 2014.
- International Conference on Advances in Computing and Communications (ACC2011).
- International Symposium on Wireless Communications Systems (ISWCS): 2014, 2013, 2010.
- IEEE International Conference on Communication, Networks and Satellite (IEEE COMNETSAT): 2019, 2017-2016.
- International Conference on Recent Advances in Signal Processing, Telecommunications & Computing (SigTelCom): 2020, 2018.



• Publicly Funded Projects

Project Title	Description
Position Authenticated Tachograph for OSNAMA Launch (PATROL) <i>Fund: European Global Navigation Satellite Systems Agency</i>	Role: Collaborator (Jan. 2018 - Dec. 2019) Project (led by Prof. N. Laurenti) on solutions for position authentication in tachograph systems.
Enhanced Space Navigation (ENSPACE) <i>Fund: European Global Navigation Satellite Systems Agency</i>	Role: Collaborator (Nov. 2017 - Oct. 2019) Project (led by Prof. N. Laurenti) on authentication techniques for advanced global navigation system receivers.
More Operative and Robust Extension to GNSS Open Service Signal Integrity Protection (MORE GOSSIP) <i>Fund: European Space Research and Technology Centre</i>	Role: Collaborator (Dec. 2016 - May 2019) Project (led by Prof. N. Laurenti) on techniques to make the global navigation system more protected against spoofing attack.
Enhancing communication security by cross-layer physical and data-link (PDX) techniques (ESCAPADE) <i>Fund: Fund for the investments on basic research (FIRB)</i>	Role: Local coordinator (Mar. 2012 - Mar. 2015) Project (led by Dr. M. Baldi, Polytechnic University of Marche) on physical layer security for wireless systems. The project has been one of the 99 selected for funding out of 2416 submitted (4% of acceptance).
Integrated Terrestrial And CABLE – Receiver Design (ITACA-RD) <i>Fund: Swiss Commission for Technology and Innovation (CTI)</i>	Role: Collaborator (Jun. 2011 - Jun. 2012) Project (led by Prof. B. Rimoldi of the École Polytechnique Fédérale de Lausanne (EPFL)) on the development of an integrated DVB-T2 and DVB-C2 receiver.
Design and implementation of a novel control and communication architecture for cooperative operation of distributed harmonic and reactive compensators <i>Fund: University of Padova</i>	Role: Collaborator (2009 - 2010) Project (led by Prof. P. Tenti) on the control and communication architecture for future smart micro-grids.
DVB-T2 Advanced Software Platform (DASP) <i>Fund: Swiss Commission for Technology and Innovation (CTI)</i>	Role: Collaborator (Feb. 2009 - Feb. 2010) Project (led by Prof. B. Rimoldi of the École Polytechnique Fédérale de Lausanne (EPFL)) on a DVB-T2 advanced software platform for the synchronization of digital video broadcasting systems.
Network of Excellence in Wireless Communications (NEWCOM++) <i>Fund: FP7 Europe</i>	Role: Collaborator (2006-2009) Participation to the European network of excellence on wireless communications.



• Privately Funded Projects

Funding Entity	Description
Huawei (China)	Role: Project Leader (Jan. 2017 - Dec. 2017) Huawei Innovation Research Program (HIRP) Open project on CSI feedback design for cellular systems.
Huawei (Italy)	Role: Project Leader (Jan. 2017 - Dec. 2017) Two projects on beamforming and scheduling for mm-wave systems.
Institute for Information Industry (III) (Taiwan)	Role: Project Leader (Mar. 2013 - Dec. 2017) Project on demand-response techniques for smart micro grids with simulation test-bed.
Luce in Veneto (Italy)	Role: Collaborator (Sept. 2011 - Aug. 2012) Project on ICT for illumination. Funded by Consorzio Luce in Veneto within Regione Veneto funded research projects.
Fondazione Cariparo, Padova (Italy)	Role: Project Leader (Jan. 2012-Dec. 2014) Recipient of a fund for a three-year Ph.D. scholarship to study the optimization of smart micro grids.
Abilis Systems Sarl (Switzerland)	Role: Project Leader (2006-2009) Two research contracts (Feb. 2006-Feb. 2007 and Mar. 2008-Mar. 2009) on signal processing for digital video broadcasting. These contracts brought also to joint scientific publications and patents.
RAI Research Center (Italy)	Role: Collaborator (2007-2013) Research contracts for new standards on digital video broadcasting, with contribution to the standard activity, joint scientific publications and patents.



• Professional Achievements

Representation Activity

- Representative of the Research Unit of University Padova within the Scientific Council (*Consiglio Scientifico*) of the National, Inter-University Consortium for Telecommunications (CNIT), since 2016.
- Representative of the Department of Information Engineering within the Perspective Student Promotion Commission (Commissione Orientamento) of the School of Engineering (U. of Padova), since 2013.
- Representative of the Department of Information Engineering within the Commission for Relation with the Engineering Association (U. of Padova) since 2013.
- Member of the executive board of the School of Engineering (U. of Padova), from 2009 to 2011.
- Representative of the Department of Information Engineering within the Tutoring Commission (Commissione Tutorato) of the School of Engineering (U. of Padova), between 2013 and 2015.

Engineering Association Memberships

- Treasurer of the IEEE Italy Section from 2013 to 2015.
- Senior Member of the Institute of Electrical and Electronics Engineers (IEEE) since 2011 and member of IEEE since 1999.
- Member of the European Association for Signal Processing (EURASIP) since 2011.

Coordination Activity

- Coordinator of the Perspective Student Promotion Commission (Commissione Orientamento) of the School of Engineering, University of Padova, from 2013 to 2014, organizing activities within the support perspective students.
- Leader of a team of 8 engineers (all with PhD qualification) at the Mathematical and Algorithmic Sciences Laboratory, France Research Center of Huawei Technologies, working on technologies for 5G cellular systems during the sabbatical leave Dec. 2014-Dec 2015.

• Teaching Experience

Fondamenti di Telecomunicazioni (Communication Engineering Fundamentals)

Bachelor course - *Ing. Informatica*

Academic Years 2013-2014, then since 2016-2017 until now.

Hours: 72. Language: Italian.

Topics: principles of communication, transmission channels, analog and digital modulation principles, uniform and non uniform quantization.

In the academic year 2013-2014 he has been *Professore Aggregato* for this course.

Class with about 100 students.



5G Systems

Master course - *ICT for Internet and Multi-media*

Academic Years since 2017-2018 until now.

Hours: 48. Language: English.

Topics: architecture of cellular communication systems, OFDM, synchronization for OFDM, peak to average power ratio reduction, channel estimation, MIMO systems, capacity of MIMO, MIMO spatial multiplexing, and space time coding.

Class with about 20 students.

Analisi dei Dati (Data Analysis)

Bachelor course - *Ing. Informazione*

Academic Year 2015-2016.

Hours: 72. Language: Italian.

Topics: probability theory, random variables and vectors, stochastic processes.

Class with about 100 students.

Advanced Communication Techniques

Master course - *Ing. Telecomunicazioni*

Academic Years 2011-2012, 2012-2013.

Hours: 48. Language: English.

Topics: OFDM, synchronization for OFDM, peak to average power ratio reduction, channel estimation, MIMO systems, capacity of MIMO, MIMO spatial multiplexing, and space time coding.

In the academic year 2011-2012 and 2012-2013, he has been *Professore Aggregato* for this course.

Class with about 20 students. **Fondamenti di Comunicazioni (Communication Engineering Fundamentals)**

Bachelor course - *Ing. Informatica*

Academic Years 2005-2006, 2006-2007, 2007-2008, 2008-2009.

Hours: 54. Language: Italian.

Topics: principles of communication, transmission channels, analog and digital modulation principles, and uniform and non uniform quantization.

In the academic years 2006-2007 and 2007-2008 he has been *Professore Aggregato* for this course.

Class with about 100 students.

Fondamenti di Comunicazioni (Communication Engineering Fundamentals)

Bachelor course - *Ing. dell'Informazione*

Academic Years 2008-2009.

Hours: 72. Language: Italian.

Topics: principles of communication, transmission channels, analog and digital modulation principles, uniform and non uniform quantization, and basics of information theory.

In the academic year 2008-2009 he has been *Professore Aggregato* for this course.

Class with about 100 students.

Sistemi di Telecomunicazioni (Telecommunication Systems)

Master course - *Ing. Elettrica*

Academic Years 2008-2009, 2009-2010.

Hours: 48. Language: Italian.

Topics: principles of communication, transmission channels, analog modulation (SSB, DSB, FM), digital modulation, principles with signal and detection theory, examples (QAM, PSK, orthogonal, PAM), uniform and non uniform quantization, and powerline communications.

Class with less than 10 students.

Telecomunicazioni (Communication Systems)

Bachelor course - *Ing. dell'Informazione*

Academic Years 2014-2015.

Hours: 72. Language: Italian.

Topics: principles of communications; digital modulation systems; quantization; elements of information theory and Shannon theorems; channel coding; queuing theory; elements of network layer techniques.

In the academic year 2014-2015 he has been *Professore Aggregato* for this course.

Class with about 100 students.

Key Technologies for Next Generation Digital Video Broadcasting Standard

Ph.D. course within the Newcom++ network of excellence

Year: 2009.

Hours: 20. Language: English.

Topics: introduction to DVB-T2, description of key technologies behind DVB-T2, including the LDPC/BCH forward error correction scheme, transmission scheduling, orthogonal frequency-division multiplexing with huge block size, multiple-antenna transmissions, and synchronization techniques, and comparison with the current DVB-T standard.

Class with less than 10 students.



Broadband Wireless Communications

Ph.D. course within the NEWCOM (European network) Doctoral School in Wireless Communications

Year: 2006.

Hours: 20. Language: English.

Topics: communications over broadband channels, principles and design of multicarrier systems, synchronization, equalizations, impairments, and implementation architectures.

Class with less than 10 students.

Multicarrier Systems

Ph.D. course

Year: 2005.

Hours: 20. Language: English.

Topics: principles and design of multicarrier systems, synchronization, equalizations, impairments, and implementation architectures.

Class with less than 10 students.

• Activity Within Doctoral Schools

Doctoral Student Supervision

- **Mr. Francesco Formaggio**, started in 2017 at University of Padova, Italy, working on security techniques for global navigation satellite systems.
- **Mr. Alessandro Brighente**, started in 2017 at University of Padova, Italy, working on resource allocation for next generation cellular systems.
- **Dr. Ermanna Conte**, Ph.D. in 2010 at University of Padova, Italy, with a thesis entitled "Multiuser MIMO downlink systems with limited feedback and remote sensing of vital signs".
- **Dr. Sintayehu Dehnie**, Ph.D. in 2009 at NYU Polytechnic University, NY, with a thesis entitled "Detection and mitigation of misbehavior in cooperative wireless communications".

Teaching Council and Defense Board

- Member of the Teaching Council (*Collegio Docenti*) of the Doctoral School on Information Engineering, (*Corso di dottorato in Ingegneria dell'informazione*), University of Padova, Italy: from the 23rd to the 26th cycle (2008-2011), and from the 30th to the 34th cycle (2015-2019).
- Member of the PhD Defense Board of the Doctoral School on Information Engineering, (*Corso di dottorato in Ingegneria dell'informazione*), University of Padova, Italy, 2019.
- Member of the PhD Defense Board of the Doctoral School on Information Technology, Politecnico di Milano, Italy, 2019.

• Thesis Supervision

Undergraduate and Graduate Student Supervision

Supervising both BS and MSc thesis activity since 2006. In particular, he has supervised 76 thesis since 2008.



• Bibliometric Indices

Google scholar: h-index 27 (total citations 3653)

Scopus: h-index 19 (total citations 2151)

ISI Web of Knowledge: h-index 16 (total citations 1427)

• Publications

Entries in boldface refer to invited papers.

Accepted For Publication

- [1] N. Benvenuto, G. Cherubini, and S. Tomasin, "Algorithms for communications systems and their applications," book published by J. Wiley & Sons, 2nd edition, Chichester, UK, 2019.
- [2] A. Brighente, F. Formaggio, M. Centenaro, G. M. Di Nunzio, and S. Tomasin, "Location-verification and network planning via machine learning approaches," accepted for presentation at the Workshop on Machine Learning for Communications (WMLC 2019), WiOpt 2019, Jun. 2019.
- [3] H. Fang, X. Wang, and S. Tomasin, "Machine learning for intelligent authentication in 5G-and-beyond wireless networks," accepted for publication in IEEE Wireless Communications Magazine, 2019.
- [4] M. Kazemina, M. Mehrjoo, and S. Tomasin, "A D2D-based solution for MTC connectivity problem in NOMA-based cellular IoT networks: Dynamic user grouping and resource allocation," accepted for publication in Mobile Networks and Application, Springer, 2019.
- [5] L. Senigagliaesi, M. Baldi, and S. Tomasin, "Resource allocation for secure gaussian parallel relay channels with finite-length coding and discrete constellations," accepted for publication in EURASIP Journal on Wireless Communications and Networking, 2019.
- [6] S. Tomasin, A. Brighente, F. Formaggio, and G. Ruvoletto, "Physical-layer location verification by ML," book chapter of *Machine Learning for Future Wireless Communications*, Ed. Fa-Long Luo, J. Wiley & Sons, Chichester, UK, 2019.

Journal Publications

- [7] A. Brighente, F. Formaggio, G. M. Di Nunzio, and S. Tomasin, "Machine learning for in-region location verification in wireless networks," *IEEE Jour. on Sel. Areas in Commun.*, vol. 37, no. 11, pp. 2490–2502, 2019. DOI: 10.1109/JSAC.2019.2933970.
- [8] A. Brighente and S. Tomasin, "Power allocation for non-orthogonal millimeter wave systems with mixed traffic," *IEEE Trans. Wireless Commun.*, vol. 18, no. 1, pp. 432–443, Jan. 2019, ISSN: 1536-1276. DOI: 10.1109/TWC.2018.2881090.
- [9] R. Diamant, P. Casari, and S. Tomasin, "Cooperative authentication in underwater acoustic sensor networks," *IEEE Trans. Wireless Commun.*, vol. 18, no. 2, pp. 954–968, Feb. 2019. DOI: 10.1109/TWC.2018.2886896.
- [10] J. C. M. Filho, C. Panazio, T. Abrão, and S. Tomasin, "Total energy efficiency of TR-MRC and FD-MRC receivers for massive MIMO uplink," *IEEE Systems Journal*, vol. 13, no. 3, pp. 2285–2296, Sep. 2019. DOI: 10.1109/JSYST.2019.2896221.
- [11] F. Formaggio and S. Tomasin, "Authentication of satellite navigation signals by wiretap coding and artificial noise," *EURASIP Journal on Wireless Communications and Networking*, Apr. 2019. DOI: 10.1186/s13638-019-1413-5.
- [12] M. Kazemina, M. Mehrjoo, and S. Tomasin, "Delay-aware spectrum sharing solutions for mixed cellular and d2d links," *Computer Communications*, vol. 139, pp. 58–66, 2019, ISSN: 0140-3664. DOI: 10.1016/j.comcom.2019.03.011. [Online]. Available: <http://www.sciencedirect.com/science/article/pii/S0140366418309241>.



- [13] H. Soleimani, R. Parada, S. Tomasin, and M. Zorzi, "Fast initial access for mmWave 5G systems with hybrid beamforming using online statistics learning," *IEEE Commun. Mag.*, vol. 57, no. 9, pp. 132–137, Sep. 2019. DOI: 10.1109/MCOM.2019.1800805.
- [14] H. Soleimani, D. D. Donno, and S. Tomasin, "mm-Wave channel estimation with accelerated gradient descent algorithms," *EURASIP Journal on Wireless Communications and Networking*, Dec. 2018, ISSN: 1687-1499. DOI: 10.1186/s13638-018-1282-3.
- [15] S. Tomasin, "Analysis of channel-based user authentication by key-less and key-based approaches," *IEEE Trans. Wireless Commun.*, vol. 17, no. 9, pp. 5700–5712, Sep. 2018, ISSN: 1536-1276. DOI: 10.1109/TWC.2018.2848937.
- [16] R. Bonetto, M. Rossi, S. Tomasin, and C. Fischione, "Joint optimal pricing and electrical efficiency enforcement for rational agents in microgrids," *IEEE Access*, vol. 5, pp. 19 782–19 798, Sep. 2017, ISSN: 2169-3536. DOI: 10.1109/ACCESS.2017.2750242.
- [17] N. Ksairi, S. Tomasin, and M. Debbah, "A multi-service oriented multiple-access scheme for M2M support in future LTE," *IEEE Commun. Magazine*, vol. 55, no. 1, Jan. 2017, ISSN: 0163-6804. DOI: 10.1109/MCOM.2016.1500689CM.
- [18] H. Soleimani, S. Tomasin, T. Alizadeh, and M. Shojafar, "Cluster-head based feedback for simplified time reversal prefiltering in ultra-wideband systems," *Physical Communication*, vol. 25, no. Part 1, pp. 100 –109, 2017, ISSN: 1874-4907. DOI: <https://doi.org/10.1016/j.phycom.2017.09.005>.
- [19] A. Benfarah, S. Tomasin, and N. Laurenti, "Power allocation in multiuser parallel Gaussian broadcast channels with common and confidential messages," *IEEE Trans. on Commun.*, vol. 64, no. 6, pp. 2326–2339, Jun. 2016, ISSN: 0090-6778. DOI: 10.1109/TCOMM.2016.2552166.
- [20] R. Bonetto, M. Rossi, S. Tomasin, and M. Zorzi, "On the interplay of distributed power loss reduction and communication in low voltage microgrid," *IEEE Trans. Ind. Informatics*, vol. 2, no. 2, pp. 322–337, Feb. 2016, ISSN: 1551-3203. DOI: 10.1109/TII.2015.2509251.
- [21] N. Benvenuto, S. Ciccotosto, and S. Tomasin, "Iterative block fractionally spaced nonlinear equalization for wideband channels," *IEEE Wireless Commun. Letters*, vol. 4, no. 5, pp. 489–492, Oct. 2015, ISSN: 2162-2337. DOI: 10.1109/LWC.2015.2444396.
- [22] A. Ferrante, N. Laurenti, C. Masiero, M. Pavon, and S. Tomasin, "On the error region for channel estimation-based physical layer authentication over Rayleigh fading," *IEEE Trans. Inf. Forensics and Security*, vol. 10, no. 5, pp. 941–952, May 2015, ISSN: 1556-6013.
- [23] E. Jorswieck, S. Tomasin, and A. Sezgin, "Broadcasting into the uncertainty: Authentication and confidentiality by physical-layer processing," *Proceedings of the IEEE*, vol. 103, no. 10, pp. 1702–1724, Oct. 2015, ISSN: 0018-9219. DOI: 10.1109/JPROC.2015.2469602.
- [24] S. Tomasin and A. Dall'Arche, "Resource allocation for secret key agreement over parallel channels with full and partial eavesdropper CSI," *IEEE Trans. Info. Forensics and Security*, vol. 10, no. 11, pp. 2314–2324, Nov. 2015, ISSN: 1556-6013. DOI: 10.1109/TIFS.2015.2455412.
- [25] M. Baldi, F. Chiaraluce, N. Laurenti, S. Tomasin, and F. Renna, "Secrecy transmission on parallel channels: Theoretical limits and performance of practical codes," *IEEE Trans. Inf. Forensics and Security*, vol. 9, no. 11, pp. 1765–1779, Nov. 2014, ISSN: 1556-6013. DOI: 10.1109/TIFS.2014.2348915.
- [26] P. Baracca, S. Tomasin, and N. Benvenuto, "Backhaul rate allocation in uplink SC-FDMA systems with multicell processing," *IEEE Trans. Wireless Commun.*, vol. 13, no. 3, pp. 1264–1273, Mar. 2014, ISSN: 1536-1276. DOI: 10.1109/TWC.2014.011714.121946.
- [27] S. Tomasin, "Routing over multi-hop fading wiretap networks with secrecy outage probability constraint," *IEEE Commun. Letters*, vol. 18, no. 10, pp. 1811–1814, Oct. 2014, ISSN: 1089-7798. DOI: 10.1109/LCOMM.2014.2352298.
- [28] S. Tomasin and N. Laurenti, "Secure HARQ with multiple encoding over block fading channels: Channel set characterization and outage analysis," *IEEE Trans. Inf. Forensics and Security*, vol. 9, no. 10, pp. 1708–1719, Oct. 2014, ISSN: 1556-6013.
- [29] S. Tomasin, F. Trentini, and N. Laurenti, "Secret key agreement by LLR thresholding and syndrome feedback over AWGN channel," *IEEE Commun. Letters*, vol. 18, no. 1, pp. 26–29, Jan. 2014, ISSN: 1089-7798. DOI: 10.1109/LCOMM.2013.112513.131744.



- [30] P. Baracca, N. Benvenuto, and S. Tomasin, "Resource allocation with multicell processing, interference cancellation and backhaul rate constraint in single carrier FDMA systems," *Elsevier Physical Communication*, vol. 8, pp. 69–80, Special issue on Broadband Single-carrier transmission techniques invited paper Sep. 2013, ISSN: 1874-4907. DOI: 10.1016/j.phycom.2012.09.003.
- [31] T. Erseghe and S. Tomasin, "Power flow optimization for smart microgrids by SDP relaxation on linear networks," *IEEE Trans. on Smart Grid*, vol. 4, no. 2, pp. 751–762, Jun. 2013, ISSN: 1949-3053. DOI: 10.1109/TSG.2012.2222677.
- [32] T. Erseghe, S. Tomasin, and A. Vigato, "Topology estimation for smart micro grids via powerline communications," *IEEE Trans. Signal Processing*, vol. 61, no. 13, pp. 3368–3377, Jul. 2013, ISSN: 1053-587X. DOI: 10.1109/TSP.2013.2259826.
- [33] S. Rosati, S. Tomasin, M. Butussi, and B. Rimoldi, "LLR compression for BICM systems using large constellations," *IEEE Trans. on Commun.*, vol. 61, no. 7, pp. 2864–2875, Jul. 2013, ISSN: 0090-6778. DOI: 10.1109/TCOMM.2013.052113.120776.
- [34] P. Baracca, N. Laurenti, and S. Tomasin, "Physical layer authentication over MIMO fading wiretap channels," *IEEE Trans. Wireless Commun.*, vol. 11, no. 7, pp. 2564–2573, Jul. 2012, ISSN: 1536-1276. DOI: 10.1109/TWC.2012.051512.111481.
- [35] P. Baracca, S. Tomasin, and N. Benvenuto, "Constellation quantization in constrained backhaul downlink network MIMO," *IEEE Trans. Commun.*, vol. 60, no. 3, pp. 830–839, Mar. 2012, ISSN: 0090-6778. DOI: 10.1109/TCOMM.2012.011312.110140.
- [36] P. Baracca, S. Tomasin, and N. Benvenuto, "A practical scheduling and power/constellation allocation for three relay networks," *EURASIP Journ. on Wireless Commun. and Networking*, vol. 2012, no. 1, p. 128, 2012, ISSN: 1687-1499. DOI: 10.1186/1687-1499-2012-128.
- [37] M. Rotoloni, S. Tomasin, and L. Vangelista, "Maximum likelihood estimation of time and carrier frequency offset for DVB-T2," *IEEE Trans. Broadcasting*, vol. 58, no. 1, pp. 77–86, Mar. 2012, ISSN: 0018-9316. DOI: 10.1109/TBC.2011.2173367.
- [38] S. Tomasin, "Resource allocation for network MIMO systems with HARQ and partial channel knowledge," *EURASIP Journ. Wireless Commun. and Networking*, vol. 2012, p. 355, Nov. 2012, ISSN: 1687-1499. DOI: 10.1186/1687-1499-2012-355.
- [39] S. Tomasin and M. Butussi, "Low complexity demapping of rotated and cyclic Q delayed constellations for DVB-T2," *IEEE Wireless Commun. Letters*, vol. 1, no. 2, pp. 81–84, Apr. 2012, ISSN: 2162-2337. DOI: 10.1109/WCL.2012.012012.110260.
- [40] K. Bakanoglu, S. Tomasin, and E. Erkip, "Resource allocation for the parallel relay channel with multiple relays," *IEEE Trans. Wireless Commun.*, vol. 10, no. 3, pp. 792–802, Mar. 2011, ISSN: 1536-1276. DOI: 10.1109/TWC.2011.011111.091682.
- [41] P. Baracca, S. Tomasin, L. Vangelista, N. Benvenuto, and A. Morello, "Per sub-block equalization of very long OFDM blocks in mobile communications," *IEEE Trans. Commun.*, vol. 59, no. 2, pp. 363–368, Feb. 2011, ISSN: 0090-6778. DOI: 10.1109/TCOMM.2011.121410.090252.
- [42] M. Rossi, C. Tapparello, and S. Tomasin, "On optimal cooperator selection policies for multi-hop ad hoc networks," *IEEE Trans. Wireless Commun.*, vol. 10, no. 2, pp. 506–518, Feb. 2011, ISSN: 1536-1276. DOI: 10.1109/TWC.2011.120810.091560.
- [43] S. Tomasin, "Consensus-based detection of malicious nodes in cooperative wireless networks," *IEEE Commun. Letters*, vol. 15, no. 4, pp. 404–406, Apr. 2011, ISSN: 1089-7798. DOI: 10.1109/LCOMM.2011.022411.102050.
- [44] D. Zennaro, S. Tomasin, and L. Vangelista, "Base station selection in uplink macro diversity cellular systems with hybrid ARQ," *IEEE Journ. Sel. Areas in Commun.*, vol. 29, no. 6, pp. 1249–1259, Jun. 2011, ISSN: 0733-8716. DOI: 10.1109/JSAC.2011.110612.
- [45] N. Benvenuto, R. Dinis, D. Falconer, and S. Tomasin, "Single carrier modulation with nonlinear frequency domain equalization: An idea whose time has come; again," *Proceedings of the IEEE*, vol. 98, no. 1, pp. 69–96, Jan. 2010, ISSN: 0018-9219. DOI: 10.1109/JPROC.2009.2031562.
- [46] E. Conte, A. Filippi, and S. Tomasin, "ML period estimation with application to vital sign monitoring," *IEEE Signal Proc. Letters*, vol. 17, no. 11, pp. 905–908, Nov. 2010, ISSN: 1070-9908. DOI: 10.1109/LSP.2010.2071382.



- [47] E. Conte, S. Tomasin, and N. Benvenuto, "A simplified greedy algorithm for joint scheduling and beamforming in multiuser MIMO OFDM," *IEEE Commun. Letters*, vol. 14, no. 5, pp. 381–383, May 2010, ISSN: 1089-7798. DOI: 10.1109/LCOMM.2010.05.091470.
- [48] E. Conte, S. Tomasin, and N. Benvenuto, "A comparison of scheduling strategies for MIMO broadcast channel with limited feedback on OFDM systems," *EURASIP Journ. Wireless Commun. and Networking*, vol. 2010, no. 1, p. 968 703, 2010, ISSN: 1687-1499. DOI: 10.1155/2010/968703.
- [49] S. Dehnie and S. Tomasin, "Detection of selfish nodes in networks using CoopMAC protocol with ARQ," *IEEE Trans. Wireless Commun.*, vol. 9, no. 7, pp. 2328–2337, Jul. 2010, ISSN: 1536-1276. DOI: 10.1109/TWC.2010.07.091454.
- [50] M. Rotoloni, S. Tomasin, and L. Vangelista, "On correlation-based synchronization for DVB-T2," *IEEE Commun. Letters*, vol. 14, no. 3, pp. 248–250, Mar. 2010, ISSN: 1089-7798. DOI: 10.1109/LCOMM.2010.03.092050.
- [51] S. Tomasin and M. Butussi, "Analysis of interpolated channel estimation for mobile OFDM systems," *IEEE Trans. Commun.*, vol. 58, no. 5, pp. 1578–1588, May 2010, ISSN: 0090-6778. DOI: 10.1109/TCOMM.2010.05.090052.
- [52] T. Erseghe and S. Tomasin, "UWB WPAN receiver optimization in the presence of multiuser interference," *IEEE Trans. Commun.*, vol. 57, no. 8, pp. 2369–2379, Aug. 2009, ISSN: 0090-6778. DOI: 10.1109/TCOMM.2009.08.070596.
- [53] A. Goljahani, N. Benvenuto, S. Tomasin, and L. Vangelista, "Superimposed sequence versus pilot aided channel estimations for next generation DVB-T systems," *IEEE Trans. Broadcasting*, vol. 55, no. 1, pp. 140–144, Mar. 2009, ISSN: 0018-9316. DOI: 10.1109/TBC.2008.2012021.
- [54] M. Rotoloni, M. Butussi, S. Tomasin, M. Lattuada, and C. Ruppert, "Multiple adaptive frequency filtering for OFDM channel estimation," *IEEE Trans. Broadcasting*, vol. 55, no. 4, pp. 826–830, Dec. 2009, ISSN: 0018-9316. DOI: 10.1109/TBC.2009.2030454.
- [55] S. Tomasin, M. Levorato, and M. Zorzi, "Steady state analysis of coded cooperative networks with HARQ protocol," *IEEE Trans. Commun.*, vol. 57, no. 8, pp. 2391–2401, Aug. 2009, ISSN: 0090-6778. DOI: 10.1109/TCOMM.2008.08.070478.
- [56] M. Trivellato, S. Tomasin, and N. Benvenuto, "On channel quantization and feedback strategies for multiuser MIMO-OFDM downlink systems," *IEEE Trans. Commun.*, vol. 57, no. 9, pp. 2645–2654, Sep. 2009, ISSN: 0090-6778. DOI: 10.1109/TCOMM.2009.09.080098.
- [57] L. Vangelista, N. Benvenuto, S. Tomasin, C. Nokes, J. Stott, A. Filippi, M. Vlot, V. Mignone, and A. Morello, "Key technologies for next-generation terrestrial digital television standard DVB-T2," *IEEE Commun. Mag.*, vol. 47, no. 10, pp. 146–153, Oct. 2009, ISSN: 0163-6804. DOI: 10.1109/MCOM.2009.5273822.
- [58] A. Vigato, S. Tomasin, L. Vangelista, V. Mignone, N. Benvenuto, and A. Morello, "Coded decision directed demodulation for second generation digital video broadcasting standard," *IEEE Trans. Broadcasting*, vol. 55, no. 3, pp. 607–615, Sep. 2009, ISSN: 0018-9316. DOI: 10.1109/TBC.2009.2025839.
- [59] M. Levorato, S. Tomasin, and M. Zorzi, "Cooperative spatial multiplexing for ad hoc networks with hybrid ARQ: System design and performance analysis," *IEEE Trans. Commun.*, vol. 56, no. 9, pp. 1545–1555, Sep. 2008, ISSN: 0090-6778. DOI: 10.1109/TCOMM.2008.060447.
- [60] D. Veronesi, S. Tomasin, and N. Benvenuto, "Cross-layer optimization for multimedia traffic in CDMA cellular networks," *IEEE Trans. Wireless Commun.*, vol. 7, no. 4, pp. 1379–1388, Apr. 2008, ISSN: 1536-1276. DOI: 10.1109/TWC.2008.060960.
- [61] N. Benvenuto, G. Carnevale, and S. Tomasin, "Joint power control and receiver optimization of CDMA transceivers using successive interference cancellation," *IEEE Trans. Commun.*, vol. 55, no. 3, pp. 563–573, Mar. 2007, ISSN: 0090-6778. DOI: 10.1109/TCOMM.2007.892458.
- [62] M. Levorato, S. Tomasin, P. Casari, and M. Zorzi, "Physical layer approximations for cross-layer performance analysis in MIMO-BLAST ad hoc networks," *IEEE Trans. Wireless Commun.*, vol. 6, no. 12, pp. 4390–4400, Dec. 2007, ISSN: 1536-1276. DOI: 10.1109/TWC.2007.060211.
- [63] S. Tomasin and F. Tosato, "Interference-resilient block-spreading CDMA with minimum-MAI sequence design," *IEEE Trans. Commun.*, vol. 55, no. 9, pp. 1783–1792, Sep. 2007, ISSN: 0090-6778. DOI: 10.1109/TCOMM.2007.904398.



- [64] J. Hou, J. Smee, H. Pfister, and S. Tomasin, "Implementing interference cancellation to increase the EV-DO Rev A reverse link capacity," *IEEE Commun. Mag.*, vol. 44, no. 2, pp. 58–64, Feb. 2006, ISSN: 0163-6804. DOI: 10.1109/MCOM.2006.1593551.
- [65] S. Tomasin and D. Veronesi, "Generalized self spread-spectrum communications with turbo soft despreading and decoding," *Journ. Commun. and Networks*, vol. 8, no. 3, pp. 267–274, Sep. 2006, ISSN: 1229-2370. DOI: 10.1109/JCN.2006.6182765.
- [66] S. Tomasin, "Efficient bidirectional DFE for doubly selective wireless channels," *EURASIP Journal on Advances in Signal Processing*, vol. 2006, no. 1, 2006, ISSN: 1687-6180. DOI: 10.1155/ASP/2006/70572.
- [67] N. Benvenuto and S. Tomasin, "Iterative design and detection of a DFE in the frequency domain," *IEEE Trans. Commun.*, vol. 53, no. 11, pp. 1867–1875, Nov. 2005, ISSN: 0090-6778. DOI: 10.1109/TCOMM.2005.858666.
- [68] S. Tomasin and N. Benvenuto, "Frequency-domain interference cancellation and nonlinear equalization for CDMA systems," *IEEE Trans. Wireless Commun.*, vol. 4, no. 5, pp. 2329–2339, Sep. 2005, ISSN: 1536-1276. DOI: 10.1109/TWC.2005.853823.
- [69] S. Tomasin, A. Gorokhov, H. Yang, and J.-P. Linnartz, "Iterative interference cancellation and channel estimation for mobile OFDM," *IEEE Trans. Wireless Commun.*, vol. 4, no. 1, pp. 238–245, Jan. 2005, ISSN: 1536-1276. DOI: 10.1109/TWC.2004.840194.
- [70] N. Benvenuto and S. Tomasin, "Block iterative DFE for single carrier modulation," *Electronics Letters*, vol. 38, no. 19, pp. 1144–1145, Sep. 2002, ISSN: 0013-5194. DOI: 10.1049/e1:20020767.
- [71] N. Benvenuto and S. Tomasin, "On the comparison between OFDM and single carrier modulation with a DFE using a frequency-domain feedforward filter," *IEEE Trans. Commun.*, vol. 50, no. 6, pp. 947–955, Jun. 2002, ISSN: 0090-6778. DOI: 10.1109/TCOMM.2002.1010614.
- [72] N. Benvenuto, S. Tomasin, and L. Tomba, "Equalization methods in OFDM and FMT systems for broadband wireless communications," *IEEE Trans. Commun.*, vol. 50, no. 9, pp. 1413–1418, Sep. 2002, ISSN: 0090-6778. DOI: 10.1109/TCOMM.2002.802571.

Book Chapters

- [73] S. Tomasin, "Use of millimeter wave carrier frequencies in 5g," in *5G Italy White Book: From research to Market*, M. A. Marsan, N. B. Melazzi, and S. Buzzi, Eds., Consorzio Interuniversitario per le Telecomunicazioni (CNIT), 2018, ISBN: 9788832170009.
- [74] G. Caparra, M. Centenaro, N. Laurenti, S. Tomasin, and L. Vangelista, "Wireless physical layer authentication for the Internet of Things," in *Information Theoretic Security and Privacy of Information Systems*, R. F. Schaefer, H. Boche, A. Khisti, and H. V. Poor, Eds., Cambridge University Press, 2017, ISBN: 9781107132269.
- [75] S. Tomasin, "Secure waveforms for 5g systems," in *Trusted Communications with Physical Layer Security for 5G and Beyond*, T. Duong, X. Zhou, and H. V. Poor, Eds., Institution of Engineering and Technology (IET), 2017, ISBN: 978-1-78561-235-0.
- [76] M. Baldi, F. Chiaraluce, N. Maturo, and S. Tomasin, "Performance analysis of transmission over AWGN wiretap channels with practical codes," in *Lect. Notes Electrical Eng.: Physical and Data-Link Security Techniques for Future Communication Systems*, M. Baldi and S. Tomasin, Eds., vol. 358, Springer, 2015, ISBN: 978-3-319-23609-4.
- [77] F. Renna, N. Laurenti, and S. Tomasin, "MIMOME gaussian channels with GMM signals in high-SNR regime: Fundamental limits and tradeoffs," in *Lect. Notes Electrical Eng.: Physical and Data-Link Security Techniques for Future Communication Systems*, M. Baldi and S. Tomasin, Eds., vol. 358, Springer, 2015, ISBN: 978-3-319-23609-4.
- [78] T. Erseghe, S. Tomasin, and P. Tenti, "Efficient management of locally generated powers in microgrids," in *Communication and Networking in Smart Grids*, Y. Xiao, Ed., CRC Press, 2012, ISBN: 9781439878729. DOI: 10.1201/b11897.



Conference Proceeding Publications

- [79] F. Formaggio, S. Ceccato, F. Basana, N. Laurenti, and S. Tomasin, "GNSS spoofing detection techniques by cellular network cross-check in smartphones," *Proc. ION GNSS+ Conf.*, Sep. 2019.
- [80] D. Glamocic and S. Tomasin, "Calibration of mmWave antenna arrays for initial access in massive MIMO 5G cellular networks," in *IEEE Int. Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Jul. 2019, pp. 1–5. DOI: 10.1109/SPAWC.2019.8815507.
- [81] G. Caparra, S. Ceccato, F. Formaggio, N. Laurenti, and S. Tomasin, "Low power selective denial of service attacks against GNSS," in *Proc. Int. Technical Meeting of the Satellite Division of The Institute of Navigation (ION GNSS+ 2018)*, Sep. 2018, pp. 3028–3041. DOI: 10.33012/2018.15909.
- [82] S. Ceccato, F. Formaggio, G. Caparra, S. Tomasin, and N. Laurenti, "Exploiting side-information for resilient GNSS positioning in mobile phones," in *Proc. IEEE/ION Position Location and Navigation Symposium*, Apr. 2018, ISBN: 978-1-5386-1647-5. DOI: 10.1109/PLANS.2018.8373546.
- [83] M. Feltrin and S. Tomasin, "A machine-learning-based handover prediction for anticipatory techniques in Wi-Fi networks," *Proc. Int. Conf. on Ubiquitous and Future Networks (ICUFN 2018)*, Jul. 2018, ISBN: 978-1-5386-4646-5.
- [84] F. Formaggio, S. Tomasin, G. Caparra, S. Ceccato, and N. Laurenti, "Authentication of Galileo GNSS signal by superimposed signature with artificial noise," *Proc. 26th European Signal Processing Conference (EUSIPCO)*, Sep. 2018, ISBN: 978-90-827970-1-5.
- [85] M. Kazemina, S. Tomasin, and M. Mehrjoo, "Resource allocation for uplink NOMA and D2D links with MLWDF scheduling discipline," in *Proc. IEEE 29th Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, Sep. 2018, ISBN: 978-1-5386-6009-6. DOI: 10.1109/PIMRC.2018.8580750.
- [86] C. Piccoli, S. Tomasin, and E. Jorswieck, "Beamformer design and power allocation for two-cluster two-user NOMA system," *Proc. Int. Conf. on Ubiquitous and Future Networks (ICUFN 2018)*, Jul. 2018, ISBN: 978-1-5386-4646-5. DOI: 10.1109/ICUFN.2018.8436808.
- [87] H. Soleimani, R. Parada, S. Tomasin, and M. Zorzi, "Statistical approaches for initial access in mmwave 5G systems," in *Proc. European Wireless*, May 2018, ISBN: 978-3-8007-4560-9.
- [88] X. Zhang, S. Tomasin, N. Benvenuto, X. Luo, and S. Yang, "CSI feedback with feedforward signaling and adaptive codebook for cellular FDD systems," in *Proc. European Wireless*, May 2018, ISBN: 978-3-8007-4560-9.
- [89] A. Brighente and S. Tomasin, "Beamforming and scheduling for mmwave downlink sparse virtual channels with non-orthogonal and orthogonal multiple access," *Proc. IEEE Int. Vehic. Tech. Conf.*, Sep. 2017, ISBN: 978-1-5090-5935-5. DOI: 10.1109/VTCFall.2017.8288070.
- [90] **A. Brighente and S. Tomasin, "Centralized and distributed sparsification for low-complexity message passing algorithm in C-RAN architectures," *Proc. IEEE Int. Vehic. Tech. Conf.*, Sep. 2017, ISBN: 978-1-5090-5935-5. DOI: 10.1109/VTCFall.2017.8287930.**
- [91] P. Cai, F. Yang, X. Zhang, S. Tomasin, and X. Luo, "Aligning or not aligning in massive MIMO downlink," in *Proc. Global Conference on Signal and Information Processing (GlobalSIP)*, Nov. 2017, pp. 229–233, ISBN: 978150905990. DOI: 10.1109/GlobalSIP.2017.8308638.
- [92] G. Caparra, M. Centenaro, N. Laurenti, and S. Tomasin, "Optimization of anchor nodes' usage for location verification systems," in *Proc. Int. Conf. on Localization and GNSS*, Jun. 2017, ISBN: 978-1-5386-2217-9. DOI: 10.1109/ICL-GNSS.2017.8376254.
- [93] V. M. Nguyen and S. Tomasin, "Low complexity channel shortening for discrete multitone modulation systems," in *2017 25th European Signal Processing Conference (EUSIPCO)*, Aug. 2017, pp. 410–414, ISBN: 978-0-9928626-7-1. DOI: 10.23919/EUSIPCO.2017.8081239.
- [94] S. Tomasin, "Comparison between asymmetric and symmetric channel-based authentication for MIMO systems," in *Proc. 21st Int. ITG Workshop on Smart Antennas*, Mar. 2017, ISBN: 978-3-8007-4394-0.
- [95] A. Benfarah, N. Laurenti, and S. Tomasin, "Resource allocation for downlink of 5g systems with OFDMA under secrecy outage constraints," in *Proc. 4th IEEE GLOBECOM Workshop on Physical Layer Security (TCPLS2016)*, Dec. 2016, ISBN: 978-1-5090-2483-4. DOI: 10.1109/GLOCOMW.2016.7849024.



- [96] G. Caparra, M. Centenaro, N. Laurenti, S. Tomasin, and L. Vangelista, "Energy-based anchor node selection for IoT physical layer authentication," in *Proc. IEEE Int. Conf. Commun. (ICC)*, 2016, ISBN: 978-1-4799-6664-6.
- [97] N. Ksairi, B. Tomasi, and S. Tomasin, "Pilot pattern adaptation for 5G MU-MIMO wireless communications," in *Proc. 17th IEEE International workshop on Signal Processing advances in Wireless Communications (SPAWC)*, Edinburgh (UK), 2016, ISBN: 978-1-5090-1749-2.
- [98] N. Ksairi, S. Tomasin, and M. Debbah, "A multi-service oriented multiple-access scheme for next-generation mobile networks," in *Proc. European Conference on Networks and Communications (EuCNC 2016)*, Athens (Greece), 2016, ISBN: 978-1-5090-2893-1. DOI: 10.1109/EuCNC.2016.7561062.
- [99] R. G. Machado, B. Tomasi, H. Hafermann, and S. Tomasin, "Design of MLSD-based receivers for short-range optical communications using the volterra expansion," in *Proc. 17th IEEE International workshop on Signal Processing advances in Wireless Communications (SPAWC)*, Edinburgh (UK), 2016, ISBN: 978-1-5090-1749-2.
- [100] M. Maso and S. Tomasin, "Pre-equalized faster than Nyquist transmission for 5G cellular microwave backhaul," in *Proc. 17th IEEE International workshop on Signal Processing advances in Wireless Communications (SPAWC)*, Edinburgh (UK), 2016, ISBN: 978-1-5090-1749-2.
- [101] E. Quaglia and S. Tomasin, "Geo-specific encryption through implicitly authenticated location for 5G wireless systems," in *Proc. 17th IEEE International workshop on Signal Processing advances in Wireless Communications (SPAWC)*, Edinburgh (UK), 2016, ISBN: 978-1-5090-1749-2.
- [102] S. Tomasin, "HARQ with quantized 1-bit CSI feedback for block fading wiretap channels," in *Proc. 4th IEEE GLOBECOM Workshop on Physical Layer Security (TCPLS2016)*, Dec. 2016, ISBN: 978-1-5090-2483-4. DOI: 10.1109/GLocomm.2016.7848921.
- [103] S. Tomasin, "MIMO relay-assisted secure uplink with compute and forward and full-duplex devices," in *Proc. 4th IEEE GLOBECOM Workshop on Physical Layer Security (TCPLS2016)*, Dec. 2016, ISBN: 978-1-5090-2483-4. DOI: 10.1109/GLocomm.2016.7848961.
- [104] S. Tomasin, "Secure compute-and-forward transmission with artificial noise and full-duplex devices," in *Proc. IEEE 27th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC): Workshop Deployment perspectives of physical layer security into wireless public RATs*, Sep. 2016, ISBN: 978-1-5090-3253-2.
- [105] S. Tomasin, I. Land, and F. Gabry, "Pilot contamination attack detection by key-confirmation in secure MIMO systems," in *Proc. IEEE Global Conf. Commun. (GLOBECOM)*, 2016, ISBN: 978-1-5090-1329-6. DOI: 10.1109/GLocomm.2016.7842146.
- [106] S. Tomasin, S. Zulian, and L. Vangelista, "Security analysis of LoRaWAN join procedure for internet of things networks," in *Proc. IEEE WCNC Workshop on M2M Communications and the Internet of Things*, Dec. 2016, ISBN: 978-1-5090-5909-6. DOI: 10.1109/WCNCW.2017.7919091.
- [107] R. Bonetto, M. Rossi, and S. Tomasin, "When order matters: Communication scheduling for current injection control in micro grids," *Proc. Conf. Innovative Smart Grid Tech. (ISGT2015)*, Feb. 2015, ISBN: 978-1-4799-1785-3.
- [108] R. Bonetto, T. Caldognetto, S. Buso, M. Rossi, S. Tomasin, and P. Tenti, "Lightweight energy management of islanded operated microgrids for prosumer communities," *Proc. IEEE Int. Conf. on Industrial Tech. (ICIT 2015)*, Mar. 2015, ISBN: 978-1-4799-7799-4.
- [109] S. Montagner, N. Benvenuto, and S. Tomasin, "Taming the complexity of mm-wave massive MIMO systems: Efficient channel estimation and beamforming," *Proc. IEEE Int. Conf. Commun. (ICC)*, Jun. 2015, pp. 1225–1230, ISBN: 978-1-4673-6305.
- [110] S. Tomasin, "A Gale-Shapley algorithm for allocation of relayed parallel wiretap coding channels," in *Proc. IEEE Conf. Commun. and Network Security (CNS)*, Sep. 2015, ISBN: 978-1-4673-7876-5/15.
- [111] S. Tomasin and A. Zaidi, "Precoded filtered multitone with overlapping subcarriers for 5G communication systems," in *Proc. 5th Int. Conf. Communications and Networking (COMNET)*, 2015, ISBN: 978-1-5090-0196-5. DOI: 10.1109/COMNET.2015.7566631.
- [112] A. Benfarah, S. Tomasin, and N. Laurenti, "Parallel BCC with one common and two confidential messages and imperfect CSIT," in *Proc. IEEE Global Conf. on Commun. (GLOBECOM) 2014*, Dec. 2014, ISBN: 978-1-4799-7470-2/14/.



- [113] **A. Dall’Arche and S. Tomasin, “Resource allocation for secret key agreement by LLR thresholding over parallel channels,” in Proc. IEEE Int. Symp. on Wireless Communication Systems (ISWCS) invited paper, Sep. 2014, ISBN: 978-1-4799-5863-4/14/.**
- [114] N. Laurenti, S. Tomasin, and F. Renna, “Resource allocation for secret transmission on parallel Rayleigh channels,” in *Proc. IEEE Int. Conf. Commun. (ICC)*, Jun. 2014, pp. 2215–2220, ISBN: 978-1-4799-2003-7.
- [115] F. Renna, N. Laurenti, and S. Tomasin, “Achievable secrecy rates over MIMOME Gaussian channels with GMM signals in low-noise regime,” in *Proc. Global Wireless Summit (GWS)*, May 2014, ISBN: 978-87-93102-88-0.
- [116] E. Scarabottolo and S. Tomasin, “Cooperative minimization of power losses in smart micro grids with PLC system,” in *Proc. Int. Conf. Ubiquitous and Future Networks (ICUFN)*, Jul. 2014, pp. 205–210, ISBN: 978-1-4799-3494-2.
- [117] **S. Tomasin and N. Benvenuto, “Fractionally spaced non-linear equalization of faster than Nyquist signals,” in Proc. European Signal Processing Conference (EUSIPCO) invited paper, Sep. 2014, ISBN: 978-0-9928-6261-9.**
- [118] S. Tomasin, T. Erseghe, and R. Pollis, “Co-simulation of control for thermal and electrical smart micro grids on a PLC-based testbed,” in *Proc. IEEE Int. Energy Conf. and Exhibition (ENERGYCON)*, May 2014, ISBN: 978-1-4799-2448-6.
- [119] S. Tomasin and E. Jorswieck, “Pilot-based secret key agreement for reciprocal correlated MIMOME block fading channels,” in *Proc. IEEE Global Conf. on Commun. (GLOBECOM) 2014*, Dec. 2014, ISBN: 978-1-4799-7470-2/14/.
- [120] S. Tomasin and N. Laurenti, “Secret message transmission by HARQ with multiple encoding,” in *Proc. IEEE Int. Conf. Commun. (ICC)*, Jun. 2014, pp. 2197–2202, ISBN: 978-1-4799-2003-7.
- [121] F. Cauduro and S. Tomasin, “LLR quantization and resource allocation of constrained backhaul for multicell processing,” in *Proc. IEEE Int. Conf. on Acoustics, Speech and Signal Processing (ICASSP)*, May 2013, pp. 5070–5074, ISBN: 978-1-4799-0356-6. DOI: 10.1109/ICASSP.2013.6638627.
- [122] F. Renna, N. Laurenti, S. Tomasin, M. Baldi, N. Maturo, M. Bianchi, F. Chiaraluce, and M. Bloch, “Low-power secret-key agreement over OFDM,” in *Proc. 2nd ACM Workshop on Hot Topics on Wireless Network Security and Privacy*, ser. HotWiSec '13, Budapest, Hungary: ACM, 2013, pp. 43–48, ISBN: 978-1-4503-2003-0. DOI: 10.1145/2463183.2463194.
- [123] S. Tomasin, “Resource allocation for secret transmissions over MIMOME fading channels,” in *Proc. IEEE Global Telecommun. Conf. (GLOBECOM), Workshop on Trusted Commun. with Physical Layer Security*, Dec. 2013, ISBN: 978-1-4799-2851-4.
- [124] S. Tomasin, “Transmission scheduling and relay assignment for multiuser uplink with partial channel knowledge,” in *Proc. IEEE Vehicular Tech. Conf. (VTC Spring)*, Jun. 2013, pp. 1–6. DOI: 10.1109/VTCspring.2013.6692796.
- [125] T. Erseghe and S. Tomasin, “Plug and play topology estimation via powerline communications for smart micro grids,” in *Proc. 6th Workshop on Power Line Communications*, Rome, Italy, Nov. 2012.
- [126] M. Gallina, M. Tasca, T. Erseghe, and S. Tomasin, “Microgrid control via powerline communications: Network synchronization field tests with PRIME modules,” in *Proc. IEEE Int. Energy Conf. and Exhibition (ENERGYCON)*, Sep. 2012, pp. 941–946, ISBN: 978-1-4673-1454-1. DOI: 10.1109/EnergyCon.2012.6347794.
- [127] C. Tapparello, S. Tomasin, and M. Rossi, “Online policies for opportunistic virtual MISO routing in wireless ad hoc networks,” in *Proc. IEEE Wireless Communications and Networking Conf. (WCNC)*, Apr. 2012, pp. 2922–2927. DOI: 10.1109/WCNC.2012.6214303.
- [128] F. Trentini, M. Tasca, S. Tomasin, and T. Erseghe, “Reactive power compensation in smart micro grids: A prime-based testbed,” in *Proc. IEEE Int. Conf. Energy Conference and Exhibition (ENERGYCON)*, Sep. 2012, pp. 909–914. DOI: 10.1109/EnergyCon.2012.6348280.
- [129] P. Baracca, S. Tomasin, and N. Benvenuto, “Downlink multicell processing employing qam quantization under a constrained backhaul,” in *Proc. Int. Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Jun. 2011, pp. 1–5, ISBN: 978-1-4244-9333-3. DOI: 10.1109/SPAWC.2011.5990394.



- [130] P. Baracca, S. Tomasin, and N. Benvenuto, "Power and time-sharing optimization for three half-duplex relay networks," in *Proc. Asian Himalayas Int. Conf. on Internet (AH-ICI)*, Nov. 2011, pp. 1–5, ISBN: 978-1-4577-1087-2. DOI: 10.1109/AHICI.2011.6113954.
- [131] P. Baracca, N. Laurenti, and S. Tomasin, "Physical layer authentication over an OFDM fading wiretap channel," in *Proc. 5th Int. ICST Conf. on Performance Evaluation Methodologies and Tools*, ser. VALUETOOLS '11, Paris, France: ICST (Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering), 2011, pp. 648–657, ISBN: 978-1-936968-09-1.
- [132] A. Costabeber, T. Erseghe, P. Tenti, S. Tomasin, and P. Mattavelli, "Optimization of micro-grid operation by dynamic grid mapping and token ring control," in *Proc. European Conf. Power Electronics and Applications (EPE 2011)*, Aug. 2011, pp. 1–10, ISBN: 978-1-61284-167-0.
- [133] **A. Costabeber, T. Erseghe, P. Tenti, and S. Tomasin, "Optimum control of distributed energy resources in residential micro-grids," in *PowerTech, 2011 IEEE Trondheim, invited paper, Jun. 2011*. DOI: 10.1109/PTC.2011.6019445.**
- [134] A. Costabeber, P. Tenti, T. Erseghe, S. Tomasin, and P. Mattavelli, "Distributed control of smart microgrids by dynamic grid mapping," in *Proc. Annual Conf. on IEEE Industrial Electronics Society (IECON)*, Nov. 2011, pp. 1323–1328. DOI: 10.1109/IECON.2011.6119500.
- [135] T. Erseghe, F. Lorenzon, S. Tomasin, A. Costabeber, and P. Tenti, "Distance measurement over PLC for dynamic grid mapping of smart micro grids," in *Proc. IEEE Int. Conf. Smart Grid Commun. (SmartGridComm)*, Oct. 2011, pp. 487–492. DOI: 10.1109/SmartGridComm.2011.6102371.
- [136] S. Tomasin and T. Erseghe, "Constrained optimization of local sources generation in smart grids by SDP approximation," in *Proc. IEEE Symp. Power Line Communications and Its Applications (ISPLC)*, Apr. 2011, pp. 187–192, ISBN: 978-1-4244-7751-7. DOI: 10.1109/ISPLC.2011.5764388.
- [137] P. Baracca, S. Tomasin, and N. Benvenuto, "Equalization of OFDM for doubly very selective channels," in *Proc. IEEE Int. Conf. Commun. Technology (ICCT)*, Nov. 2010, pp. 29–32, ISBN: 978-1-4244-6868-3. DOI: 10.1109/ICCT.2010.5689159.
- [138] P. Baracca, S. Tomasin, and N. Benvenuto, "Optimization of base station coordination and power allocation in cellular networks downlink," in *Proc. IEEE Int. Conf. Commun. Technology (ICCT)*, Nov. 2010, pp. 96–99. DOI: 10.1109/ICCT.2010.5689200.
- [139] E. Conte, A. Filippi, and S. Tomasin, "Heart rate estimation using ultra wide band pulse radar," in *Proc. IASTED Int. Conf. Biomedical Eng. (BioMed)*, Feb. 2010, ISBN: 978-0-88986-825-0.
- [140] D. Forner, T. Erseghe, S. Tomasin, and P. Tenti, "On efficient use of local sources in smart grids with power quality constraints," in *Proc. IEEE Int. Conf. Smart Grid Communications (SmartGridComm)*, Oct. 2010, pp. 555–560, ISBN: 978-1-4244-6510-1. DOI: 10.1109/SMARTGRID.2010.5621996.
- [141] C. Tapparello, S. Tomasin, and M. Rossi, "On interference-aware cooperation policies for wireless ad hoc networks," in *Proc. Int. Conf. Ultra Modern Telecommunications and Control Systems and Workshops (ICUMT)*, Oct. 2010, pp. 103–108. DOI: 10.1109/ICUMT.2010.5676651.
- [142] D. Zennaro, S. Tomasin, and L. Vangelista, "Uplink cell selection for cooperative multi-cell networks with hybrid ARQ," in *Proc. IEEE Global Telecomm. Conf. (GLOBECOM)*, Dec. 2010, pp. 1–5. DOI: 10.1109/GLOCOM.2010.5684281.
- [143] P. Baracca, N. Benvenuto, S. Tomasin, L. Vangelista, and A. Morello, "Per sub-block equalization of OFDM for mobile digital video transmission," in *Proc. Int. Broadcasting Conf. (IBC)*, 2009.
- [144] P. Baracca, S. Tomasin, L. Vangelista, N. Benvenuto, and A. Morello, "Per sub-block equalization and channel estimation for next generation handheld DVB," in *Proc. Int. Conf. Ultra Modern Telecommunications Workshops (ICUMT)*, Oct. 2009, pp. 1–6. DOI: 10.1109/ICUMT.2009.5345377.
- [145] A. Conte Ermanna; Filippi and S. Tomasin, "On the modulation of ultra wide band pulse radar signal by target vital signs," in *Proc. of the 2009 Int. Symp. on Bioelectronics and Bioinformatics*, 2009, ISBN: 9780980731415.
- [146] S. Dehnie and S. Tomasin, "Selfish misbehavior detection in CSMA cooperative networks with HARQ," in *Proc. IEEE Int. Conf. Wireless and Mobile Computing, Networking and Commun.*, Oct. 2009, pp. 55–60. DOI: 10.1109/WiMob.2009.19.



- [147] S. Dehnie, S. Tomasin, and R. Ghanadan, "Sequential detection of misbehaving nodes in cooperative networks with HARQ," in *Proc. IEE Military Communications Conf. (MILCOM)*, Oct. 2009, pp. 1–6. DOI: 10.1109/MILCOM.2009.5379949.
- [148] M. Rotoloni, M. Butussi, S. Tomasin, M. Lattuada, and C. Ruppert, "Multiple adaptive frequency filtering for OFDM channel estimation," in *Proc. IEEE Workshop Signal Processing Advances in Wireless Commun. (SPAWC)*, Jun. 2009, pp. 16–20. DOI: 10.1109/SPAWC.2009.5161738.
- [149] S. Tomasin and M. Butussi, "Improved channel duration estimate for mobile OFDM systems," in *Proc. IEEE Workshop Signal Processing Advances in Wireless Commun.*, Jun. 2009, pp. 11–15. DOI: 10.1109/SPAWC.2009.5161737.
- [150] A. Vigato, N. Benvenuto, S. Tomasin, and L. Vangelista, "On hard and soft detection of space-time block codes by a novel soft output sphere decoder," in *Proc. Int. Conf. Ultra Modern Telecommunications Workshops (ICUMT)*, Oct. 2009, pp. 1–5. DOI: 10.1109/ICUMT.2009.5345538.
- [151] K. Bakanoglu, S. Tomasin, and E. Erkip, "Resource allocation in wireless networks with multiple relays," in *Proc. Asilomar Conf. on Signals, Systems and Computers*, Oct. 2008, pp. 1501–1505. DOI: 10.1109/ACSSC.2008.5074671.
- [152] E. Conte, S. Tomasin, and N. Benvenuto, "Scheduling strategies for multiuser MIMO OFDM systems with limited feedback," in *Proc. IEEE Symp. Personal, Indoor and Mobile Radio Commun. (PIMRC)*, Sep. 2008, pp. 1–5. DOI: 10.1109/PIMRC.2008.4699655.
- [153] S. Dehnie and S. Tomasin, "Detection of selfish partners by control packets in ARQ-based CSMA cooperative networks," in *Proc. IEEE Int. Symp. Spread Spectrum Techniques and Applications (ISSSTA)*, Aug. 2008, pp. 205–210. DOI: 10.1109/ISSSTA.2008.43.
- [154] T. Erseghe and S. Tomasin, "Optimized demodulation for MAI resilient UWB W-PAN receivers," in *Proc. IEEE Int. Conf. on Commun. (ICC)*, May 2008, pp. 4867–4871. DOI: 10.1109/ICC.2008.912.
- [155] **M. Levorato, S. Tomasin, and M. Zorzi, "Recursive analysis of ad hoc networks with packet queueing, channel contention and hybrid ARQ," in Proc. Information Theory and Applications Workshop, invited paper, Jan. 2008, pp. 490–498. DOI: 10.1109/ITA.2008.4601098.**
- [156] M. Trivellato, S. Tomasin, and N. Benvenuto, "Channel quantization and feedback optimization in multiuser MIMO-OFDM downlink systems," in *Proc. IEEE Global Telecommunications Conf. (GLOBECOM)*, Nov. 2008, pp. 1–5. DOI: 10.1109/GLOCOM.2008.ECP.736.
- [157] A. Vigato, S. Tomasin, L. Vangelista, N. Benvenuto, and V. Mignone, "Soft detection of modulation diversity schemes for next generation digital terrestrial television," in *Proc. IEEE Int. Symp. Spread Spectrum Techniques and Applications (ISSSTA)*, Aug. 2008, pp. 349–353. DOI: 10.1109/ISSSTA.2008.70.
- [158] N. Benvenuto, E. Conte, S. Tomasin, and M. Trivellato, "Joint low-rate feedback and channel quantization for the MIMO broadcast channel," in *Proc. AFRICON 2007*, Sep. 2007, pp. 1–7. DOI: 10.1109/AFRCON.2007.4401547.
- [159] N. Benvenuto, E. Conte, S. Tomasin, and M. Trivellato, "Low-rate predictive feedback for the OFDM MIMO broadcast channel," Sep. 2007, pp. 65–79, ISBN: 978-0-387-73824-6.
- [160] N. Benvenuto, E. Conte, S. Tomasin, and M. Trivellato, "Predictive channel quantization and beamformer design for MIMO-bc with limited feedback," in *Proc. IEEE Global Telecomm. Conf. (GLOBECOM)*, Nov. 2007, pp. 3607–3611. DOI: 10.1109/GLOCOM.2007.685.
- [161] N. Benvenuto, A. Goljahani, S. Tomasin, and L. Vangelista, "Superimposed sequence channel estimation and pilot aided channel estimation: A throughput comparison," in *Proc. Int. Symp. Wireless Personal Multimedia Commun. (WPMC)*, Dec. 2007.
- [162] N. Benvenuto, S. Tomasin, and D. Veronesi, "Multiple frequency offsets estimation and compensation for cooperative networks," in *Proc. IEEE Wireless Communications and Networking Conf. (WCNC)*, Mar. 2007, pp. 891–895. DOI: 10.1109/WCNC.2007.169.
- [163] M. Levorato, S. Tomasin, and M. Zorzi, "Coded cooperation for ad hoc networks with spatial multiplexing," in *Proc. IEEE Int. Conf. Commun. (ICC)*, Jun. 2007, pp. 4746–4751. DOI: 10.1109/ICC.2007.784.
- [164] M. Levorato, S. Tomasin, and M. Zorzi, "Strategies and tradeoffs for coded cooperation in wireless networks," in *Proc. Int. Symp. Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt)*, Apr. 2007, pp. 1–10. DOI: 10.1109/WIOPT.2007.4480100.



- [165] S. Tomasin, M. Levorato, and M. Zorzi, "Analysis of outage probability for cooperative networks with HARQ," in *Proc. IEEE Int. Symp. on Inf. Theory (ISIT)*, Jun. 2007, pp. 2716–2720. DOI: 10.1109/ISIT.2007.4557629.
- [166] N. Benvenuto, G. Carnevale, and S. Tomasin, "MC-CDMA with SIC: Power control by discrete stochastic approximation and comparison with OFDMA," in *Proc. Int. Conf. Commun.*, vol. 12, Jun. 2006, pp. 5715–5720. DOI: 10.1109/ICC.2006.255575.
- [167] M. Levorato, S. Tomasin, P. Casari, and M. Zorzi, "An approximate approach for layered space-time multiuser detection performance and its application to MIMO ad hoc networks," in *Proc. IEEE Int. Conf. Commun. (ICC)*, vol. 8, Jun. 2006, pp. 3711–3716. DOI: 10.1109/ICC.2006.255649.
- [168] M. Levorato, S. Tomasin, P. Casari, and M. Zorzi, "Analysis of spatial multiplexing for cross-layer design of MIMO ad hoc networks," in *Proc. IEEE Vehic. Tech. Conf. (VTC 2006-Spring)*, vol. 3, May 2006, pp. 1146–1150. DOI: 10.1109/VETECS.2006.1683014.
- [169] M. Levorato, S. Tomasin, and M. Zorzi, "Analysis of cooperative spatial multiplexing for ad hoc networks with adaptive hybrid ARQ," in *Proc. IEEE Vehic. Tech. Conf. (VTC-2006 Fall)*, Sep. 2006, pp. 1–5. DOI: 10.1109/VTCF.2006.452.
- [170] N. Benvenuto, G. Carnevale, and S. Tomasin, "Optimization of SIC receiver and CDMA power control by discrete stochastic approximation," in *Proc. Int. Conf. on Information, Communications and Signal Processing*, Sep. 2005, pp. 1485–1489. DOI: 10.1109/ICICS.2005.1689306.
- [171] N. Benvenuto, G. Carnevale, and S. Tomasin, "Optimum power control and ordering in SIC receivers for uplink CDMA systems," in *Proc. IEEE Int. Conf. Commun. (ICC)*, vol. 4, May 2005, 2333–2337 Vol. 4. DOI: 10.1109/ICC.2005.1494752.
- [172] S. Tomasin, "Overlap and save frequency domain DFE for throughput efficient single carrier transmission," in *Proc. Int. Symp. Personal, Indoor and Mobile Radio Communications (PIMRC)*, vol. 2, Sep. 2005, 1199–1203 Vol. 2. DOI: 10.1109/PIMRC.2005.1651631.
- [173] S. Tomasin and F. Tosato, "Throughput efficient block-spreading CDMA: Sequence design and performance comparison," in *Proc. IEEE Global Telecomm. Conf. (GLOBECOM)*, vol. 4, Dec. 2005, 5 pp.–2280. DOI: 10.1109/GLOCOM.2005.1578069.
- [174] N. Benvenuto, G. Carnevale, and S. Tomasin, "Energy optimization of CDMA transceivers using successive interference cancellation," in *Proc. IEEE Global Telecommunications Conf. (GLOBECOM)*, vol. 4, Nov. 2004, 2644–2648 Vol.4. DOI: 10.1109/GLOCOM.2004.1378484.
- [175] N. Benvenuto and S. Tomasin, "A dynamic rate uplink multiple access scheme based on FMT modulation," in *Proc. IEEE Vehicular Tech. Conf. (VTC 2004-Spring)*, vol. 2, May 2004, 909–913 Vol.2. DOI: 10.1109/VETECS.2004.1388962.
- [176] S. Tomasin, "Self spread-spectrum and successive interference cancellation for broadband wireless transmissions," in *Proc. IEEE Vehic. Tech. Conf. (VTC 2004-Spring)*, vol. 3, May 2004, 1431–1435 Vol.3. DOI: 10.1109/VETECS.2004.1390489.
- [177] S. Tomasin and N. Benvenuto, "A reduced complexity block iterative DFE for dispersive wireless applications," in *Proc. IEEE Vehicular Tech. Conf. (VTC2004-Fall)*, vol. 3, Sep. 2004, 1693–1697 Vol. 3. DOI: 10.1109/VETECF.2004.1400323.
- [178] S. Tomasin and N. Benvenuto, "Performance comparison of frequency domain equalizers for the IEEE 802.16a WMAN standard," in *Proc. Int. Conf. Information and Commun. Tech: From Theory to Applications*, Apr. 2004, pp. 231–232. DOI: 10.1109/ICTTA.2004.1307709.
- [179] S. Tomasin and D. Veronesi, "Soft turbo despreading and decoding for self spread-spectrum communications," in *Proc. IEEE Vehic. Tech. Conf. (VTC2004-Fall)*, vol. 1, Sep. 2004, 734–738 Vol. 1. DOI: 10.1109/VETECF.2004.1400105.
- [180] N. Benvenuto and S. Tomasin, "Iterative decoding and decision feedback equalization in the frequency domain," in *Proc. IEEE Int. Symp. Telecommunications (IST)*, Sep. 2003.
- [181] **S. Tomasin and N. Benvenuto, "Equalization and multiuser interference cancellation in CDMA systems," in Proc. Wireless Personal Mobile Commun. Summit (WPMC) invited paper, Oct. 2003.**



- [182] N. Benvenuto and S. Tomasin, "Efficient pre-coding schemes for FMT broadband wireless systems," in *Proc. IEEE Int. Symp. Personal, Indoor and Mobile Radio Commun.*, vol. 4, Sep. 2002, 1493–1497 vol.4. DOI: 10.1109/PIMRC.2002.1045427.
- [183] N. Benvenuto and S. Tomasin, "Transmit diversity schemes for broadband wireless systems with co-channel interference," in *Proc. IEEE Benelux Signal Proc. Symp.*, Mar. 2002.
- [184] N. Benvenuto and S. Tomasin, "Transmit gain optimization for space time block coding wireless systems with co-channel interference," in *Proc. IST Mobile & Wireless Telecommunications Summit*, Jun. 2002.
- [185] J. P. Linnartz, A. Gorokhov, S. Tomasin, and H. Yang, "Achieving mobility for DVB-T by signal processing for Doppler compensation," in *Proc. Int. Broadcasting Conf. (IBC)*, Sep. 2002, pp. 412–420.
- [186] S. Tomasin, A. Gorokhov, H. Yang, and J.-P. Linnartz, "Reduced complexity Doppler compensation for mobile DVB-T," in *Proc. IEEE Int. Symp. Personal, Indoor and Mobile Radio Commun.*, vol. 5, Sep. 2002, 2077–2081 vol.5. DOI: 10.1109/PIMRC.2002.1046510.
- [187] N. Benvenuto and S. Tomasin, "Channel estimators with reduced complexity for multicarrier systems," in *Proc. IEEE Int. Symp. Telecommunications (IST)*, Sep. 2001.
- [188] N. Benvenuto and S. Tomasin, "Frequency domain DFE: System design and comparison with OFDM," in *Proc. IEEE 8th Symp. Commun. and Vehic. Tech. in the Benelux*, Oct. 2001.
- [189] N. Benvenuto, S. Tomasin, and L. Tomba, "Receiver architectures for FMT broadband wireless systems," in *Proc. IEEE Vehicular Tech. Conf. (VTC 2001 Spring)*, vol. 1, May 2001, 643–647 vol.1. DOI: 10.1109/VETECS.2001.944922.
- [190] R. Cideciyan, E. Eleftheriou, and S. Tomasin, "Performance analysis of magnetic recording systems," in *Proc. IEEE Int. Conf. Commun. (ICC)*, vol. 9, Jun. 2001, 2711–2715 vol.9. DOI: 10.1109/ICC.2001.936643.

Patents

- [191] N. Ksairi, S. Tomasin, and B. Tomasi, "Systems and methods for scheduling of resources and pilot patterns to user terminals in a multi-user wireless network," pat. WO2017133762(A1), Oct. 2017.
- [192] V. M. Nguyen and S. Tomasin, "A communication apparatus and method for receiving a multicarrier modulation signal," pat. WO2017133768(A1), Aug. 2017.
- [193] E. Quaglia and S. Tomasin, "Server and method for transmitting a geo-encrypted message," pat. WO2017/054843(A1), Apr. 2017.
- [194] S. Tomasin and I. Land, "Secure paring method for MIMO systems," pat. WO2017/063716(A1), Apr. 2017.
- [195] A. Zaidi and S. Tomasin, "Precoding device for caelling asymmetricly knoww interference," pat. WO2017101999(A1), Jun. 2017.
- [196] M. Butussi, S. Tomasin, and S. Rosati, "Soft metrics compressing method," pat. WO2014/029425(A1), Feb. 2014.
- [197] M. Butussi and S. Tomasin, "Signal processing method," pat. WO2012/123528(A1), Sep. 2012.
- [198] A. Morello, S. Tomasin, P. Baracca, L. Vangelista, and N. Benvenuto, "Method and apparatus for receiving numerical signals modulated by frequency division multiplexing," pat. ITTO20090661(A1), WO2011/024118(A2) [Mar. 2011], Feb. 2011.
- [199] M. Butussi and S. Tomasin, "Interpolated channel estimation for mobile OFDM systems," pat. WO2010/081896(A2), US20120020427(A1) [Jan. 2012], Jul. 2010.
- [200] S. Tomasin, M. Butussi, M. Lattuada, C. A. Ruppert, and Y. Mathys, "Method for channel estimation in OFDM systems," pat. WO2008/129047(A1), EP2149238(A1) [Feb. 2010], Oct. 2010.
- [201] J. Hou, H. D. Pfister, J. E. Smee, and S. Tomasin, "Joint interference cancellation of pilot, overhead and traffic channels," pat. WO2006/071761(A1), US20060141935(A1) [June 2006], Jul. 2006.
- [202] H. D. Pfister, J. Hou, J. E. Smee, and S. Tomasin, "Traffic interference cancellation," pat. WO2006/072086(A1), US20060141934(A1) [June 2006], Jul. 2006.
- [203] J. E. Smee, H. D. Pfister, J. Hou, and S. Tomasin, "Channel estimation for interference cancellation," pat. WO2006/072088(A1), US20060141933(A1), Jun. 2006.



- [204] S. Tomasin, H. D. Pfister, J. Hou, and J. E. Smee, "Adaptation of transmit subchannel gains in a system with interference cancellation," pat., WO2006/071760 (A1), US 20060142041(A1) [June 2006], Jul. 2006.
- [205] S. Tomasin, N. Benvenuto, F. Osnato, M. Odoni, and F. Spalla, "Frequency-domain multi-user access interference cancellation and nonlinear equalization in CDMA receivers," pat. US20050249269(A1), Nov. 2005.
- [206] N. Benvenuto, S. Tomasin, and L. Agarossi, "Frequency domain equalization for single-carrier signals," pat. WO2004/021657(A3), US20050259727(A1), Mar. 2004.
- [207] S. Tomasin and N. Benvenuto, "Filterbank modulation system with pre-equalization," pat. WO2004/023750(A1), Mar. 2003.

Presentations

- [208] S. Tomasin and X. Wang, "Physical layer authentication and location verification: A machine-learning perspective," in *Tutorial at IEEE Int. Conf. Commun. (ICC)*. May 2019.
- [209] **S. Tomasin, "Machine learning approaches for position and user authentication in wireless systems," in Invited talk at ShanghaiTech Workshop on Information, Learning and Decision (SWILD 2018) in Shanghai (invited talk). Jun. 2018.**
- [210] **S. Tomasin, "Initial access and channel estimation for mm-wave systems," in Invited talk at Workshop on High Frequency Technologies for 5G, organized by Politecnico di Milano and Huawei (invited talk). Nov. 2017.**
- [211] **S. Tomasin, "Experiments and implementations of physical layer security schemes," in Keynote at the Workshop on Deployment perspectives of Physical Layer Security into wireless public RATs, IEEE International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC'2016). Sep. 2016.**
- [212] **S. Tomasin, "Resource allocation for parallel Gaussian broadcast channel for security purposes," in 4th IEEE GLOBECOM Workshop on Physical Layer Security (TCPLS2016) (invited talk). Dec. 2016.**
- [213] **S. Tomasin, "Frequency domain equalization and multiple access: The second childhood of single carrier modulation," in Workshop on Broadband Single Carrier and Frequency Domain Communications, Int. Conf. on Telecommun. (GLOBECOM) (invited talk). Dec. 2010.**
- [214] S. Tomasin and M. Butussi, "DVB-T2: Key technologies and implementation issues," in *Tutorial at IEEE Int. Conf. Commun. (ICC)*. Jun. 2009. [Online]. Available: <http://dl.comsoc.org/comsocdl/?article=20323121>.