



# 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 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): 2018-2017.
- International Conference on Computing and Network Communications (CoCoNet): 2018.
- European Wireless (EW): 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): 2019-2014, 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): 2017-2016.
- International Conference on Recent Advances in Signal Processing, Telecommunications & Computing (SigTelCom): 2018.



## • Publicly Funded Projects

Project Title	Description
<b>Position Authenticated Tachograph for OSNAMA Launch (PATROL)</b> <i>Fund: European Global Navigation Satellite Systems Agency</i>	<b>Role: Collaborator</b> (Jan. 2018 - Dec. 2019) Project (led by Prof. N. Laurenti) on solutions for position authentication in tachograph systems.
<b>Enhanced Space Navigation (ENSPACE)</b> <i>Fund: European Global Navigation Satellite Systems Agency</i>	<b>Role: Collaborator</b> (Nov. 2017 - Oct. 2019) Project (led by Prof. N. Laurenti) on authentication techniques for advanced global navigation system receivers.
<b>More Operative and Robust Extension to GNSS Open Service Signal Integrity Protection (MORE GOSSIP)</b> <i>Fund: European Space Research and Technology Centre</i>	<b>Role: Collaborator</b> (Dec, 2016 - May 2019) Project (led by Prof. N. Laurenti) on techniques to make the global navigation system more protected against spoofing attack.
<b>Enhancing communication security by cross-layer physical and data-link (PDX) techniques (ESCAPADE)</b> <i>Fund: Fund for the investments on basic research (FIRB)</i>	<b>Role: Local coordinator</b> (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).
<b>Integrated Terrestrial And CABLE – Receiver Design (ITACA-RD)</b> <i>Fund: Swiss Commission for Technology and Innovation (CTI)</i>	<b>Role: Collaborator</b> (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.
<b>Design and implementation of a novel control and communication architecture for cooperative operation of distributed harmonic and reactive compensators</b> <i>Fund: University of Padova</i>	<b>Role: Collaborator</b> (2009 - 2010) Project (led by Prof. P. Tenti) on the control and communication architecture for future smart micro-grids.
<b>DVB-T2 Advanced Software Platform (DASP)</b> <i>Fund: Swiss Commission for Technology and Innovation (CTI)</i>	<b>Role: Collaborator</b> (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.
<b>Network of Excellence in Wireless Communications (NEWCOM++)</b> <i>Fund: FP7 Europe</i>	<b>Role: Collaborator</b> (2006-2009) Participation to the European network of excellence on wireless communications.



## • Privately Funded Projects

Funding Entity	Description
Huawei (China)	<b>Role: Project Leader</b> (Jan. 2017 - Dec. 2017) Huawei Innovation Research Program (HIRP) Open project on CSI feedback design for cellular systems.
Huawei (Italy)	<b>Role: Project Leader</b> (Jan. 2017 - Dec. 2017) Two projects on beamforming and scheduling for mm-wave systems.
Institute for Information Industry (III) (Taiwan)	<b>Role: Project Leader</b> (Mar. 2013 - Dec. 2017) Project on demand-response techniques for smart micro grids with simulation test-bed.
Luce in Veneto (Italy)	<b>Role: Collaborator</b> (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)	<b>Role: Project Leader</b> (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)	<b>Role: Project Leader</b> (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)	<b>Role: Collaborator</b> (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] J. Marinello, C. Panazio, T. Abrao, and S. Tomasin, "Total energy efficiency of td- and fd-mrc receivers for massive mimo uplink," accepted for publication on IEEE Systems Journal, 2019.
- [3] 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.
- [4] R. Diamant, P. Casari, and S. Tomasin, "Cooperative authentication in underwater acoustic sensor networks," accepted for publication on IEEE Transaction Wireless Communications, 2018.

### Journal Publications

- [5] 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, 2019, ISSN: 1536-1276. DOI: 10.1109/TWC.2018.2881090.
- [6] 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.
- [7] 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.
- [8] 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, 2017, ISSN: 2169-3536. DOI: 10.1109/ACCESS.2017.2750242.
- [9] 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.
- [10] 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>.
- [11] 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.
- [12] 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.



- [13] 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.
- [14] 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.
- [15] 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.
- [16] 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.
- [17] 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.
- [18] 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.
- [19] 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.
- [20] 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.
- [21] 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.
- [22] **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.**
- [23] 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.
- [24] 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.
- [25] 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.
- [26] 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.
- [27] 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.
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