

PERSONAL INFORMATION

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EDUCATION

- **2011: PhD**, Department of Electrical, Computer and Biomedical Engineering, University of Pavia, Italy. Top grade. *Thesis:* “Orthogonal Frequency Division Multiplexing Systems and Applications in Cognitive Radio Networks”. *PhD Supervisor:* Lorenzo Favalli.
- **2007: Qualified Engineer.**
- **2007: Master Degree**, Department of Electrical, Computer and Biomedical Engineering, University of Pavia, Italy. Score 109/110. *Thesis:* “Estimation Techniques for time and frequency selective channel in 802.16 Systems”.
- **1999: Diploma (Master-level) Degree**, Flute, Conservatory of Music, Matera, Italy. Top grade (10/10).

CURRENT POSITION

- *May 2019 – At present:* **Senior Research Fellow** at the Telecommunications & Remote Sensing Laboratory (TLC&RS Lab), under the **Research Grant** from the University of Pavia, obtained after passing a highly competitive evaluation for a grant fully funded by the University. The topic is on “*Intra-body communication systems for nervous signal transmissions*”.

PREVIOUS POSITIONS and MOBILITY

- *Nov 2014 – Apr 2019:* **Research Fellow** at the Telecommunications & Remote Sensing Laboratory (TLC&RS Lab), under the **Research Grant** from the Department of Electrical, Computer and Biomedical Engineering (Dept. ECBE), UNIPV, obtained after passing a national open competition. The topic is on “*New communication algorithms and protocols for N-RFID networks*”. In 2014-2016 she was involved as design engineer for a high data rate modem within the collaboration between the university and *SIAE microelettronica company*. For 3 years (2015-2017) she worked as researcher in the national [PRIN GRETA Project](#) on tags identification in RFID systems.
- *Jun-Sept 2016 and Dec 2011* **Visiting Researcher**, ECE Dept., Northeastern University, Massachusetts working on new research directions on communications for implanted sensors.
- *2010 - 2014:* **Post Doc Research Fellow** at the TLC&RS Lab, under the **Research Grant** from the Dept. ECBE, University of Pavia, Italy, obtained after passing a national open competition. The topic was “*Advanced estimation techniques for radio receivers*”.
- *2009-2010* **Visiting Researcher**, Broadband Wireless Networking Lab, Georgia Institute of Technology, Georgia under the supervision of Prof. I. F. Akyildiz. The subject was an innovative research on heterogeneous primary users in cognitive radio networks.
- *Jul 2009 and Jul-Aug 2010* **Visiting Researcher**, Universitat Politècnica de Catalunya, Spain. The topic of the research was resource management in cognitive radio networks exploiting a novel radio environmental map, in the framework of the European FP7 [FARAMIR Project](#).
- *2007-2009* **Researcher**, within the EU [PROETEX Project](#) for long-range transmissions of data acquired from biomedical sensors in critical emergency crisis, and within an *Italy-Turkey FIRB Project* for the evaluation and reduction of seismic risk in large infrastructures, EUCENTRE, Italy.

FELLOWSHIPS AND AWARDS

She received awards on her research and teaching activities including one during her mobility period in 2016.

- **2018:** Included in the list “[N2Women: Rising Stars in Computer Networking and Communications, 2018](#)” for outstanding and impactful contributions in the area of networking/communications - 10 women selected from around the world, supported by IEEE Communication Society.
- **2021: Best Paper Award** ACM NanoCom 2021 for the conference paper “Electromyography Data Transmission via Galvanic Coupling Intra-body Communication Link”.
- **2021:** Nominated **Award Co-chair of 2021 N2Women board**, supported by IEEE Communication Society and IEEE Computer Society.
- **2021:** Nominated **TPC Chair** for the conference ACM NanoCom 2022, Barcelona, Spain.

- **2021: Top cited paper** 2019-2020, Internet Technology Letters, Wiley: “Experimental data set analysis of RSSI-based indoor and outdoor localization in LoRa networks”.
- **2021: Top read paper** from the Department of Electrical, Computer and Biomedical Engineering, University of Pavia, Italy, with a total number of more than 1.100 reads for the article “A Kalman based Hybrid Precoding for Multi-User Millimeter Wave MIMO Systems”.
- **2020: IEEE Senior Member** Grade Elevation.
- **2020:** Selected as **Symposium Chair** by the IEEE Technical Committee on Green Communications & Computing after passing an international open competition, at the IEEE Global Communications Conference 2022, IEEE GLOBECOM 2022.
- **2020: Top downloaded paper** 2018-2019, Internet Technology Letters, Wiley: “Experimental data set analysis of RSSI-based indoor and outdoor localization in LoRa networks”.
- **2018: Erasmus + Grant** for teaching mobility at UPC Spain after an open competition, University of Pavia.
- **2016: Outstanding Research Visitor** at GENESYS Laboratory, College of Engineering, Northeastern University, Boston (academic year 2015-2016).
- **2015:** Selected as **Vice Chair** for the evaluation process of project proposals submitted to H2020 FETOPEN 2015 call.

FUNDING ID

- **2020-2022** Involved in the proposal writing and in the technical work of the National TIM Project **VOCE** – Visual communicator for the automatic translation of vocal sentences in images and symbols *Comunicatore Visuale per la traduziOne automatiCa di Espressioni vocali in immagini e simboli*. Total Budget: € 200.000
- **2013-2016** Responsible for the technical work on transmission techniques and tags identification of the National PRIN Project **GRETA** - GREen TAGs and sensors with Ultrawide band identification and localization capabilities. Total Budget: € 1.836.471
- **2010-2012** External collaborator on radio resource management of the European FP7 Project **FARAMIR** - Flexible and spectrum-Aware Radio Access through Measurements and modelling In cognitive Radio systems. Total Budget: € 5.529.324
- **2006-2010** Responsible for the work on biomedical data transmission in high-risk scenarios of the European FP6-IST Project **PROETEX** - Protection e-Textiles: MicroNanoStructured fibre systems for emergency-disaster wear. Total Budget: € 12.792.243
- **2007-2010** Responsible for the technical work on data transmission of the **Italy-Turkey FIRB Project** - Assessment and reduction of seismic risk to large infrastructural systems.

ACTIVITIES FOR THE EUROPEAN COMMISSION AND OTHER COUNTRIES

- **2017 Proposal Evaluator**, [European MANUNET call](#), Finpiemonte, Italy.
- **2016-2017 Reviewer Panel member and Evaluator** for H2020 ICT call (Topics ICT-07-2017 and ICT-08-2017 (“5G PPP Phase 2”), Research Executive Agency (European Commission), Belgium.
- **2013-2015 Evaluator** for FET calls reviewing around 4 proposals per year, REA (EC), Belgium.
- **2014 Evaluator** for [Czech-Norwegian research programme](#), Ministry of Education, Czech Republic.

EDITORIAL AND REVIEWING ACTIVITIES

- **2018-At present Associate Editor** on IET Electronics Letters.
- **2018-At present Executive Editor** on Transactions on Emerging Telecommunications Technologies.
- **2017-2018 Guest Editor** for the Special Issue “Internet of Wearable and Implantable Medical Things: Theory and Applications” – Sensors Journal.
- **2012-At present** Often invited as **TPC member** for international conferences (more than thirty), such as IEEE ICC 2022, IEEE ICC 2021, ICC 2020, ACM NanoCom2020, IEEE ICC 2018, IEEE GLOBECOM 2017, IEEE VTC Spring 2017, IEEE INFOCOM 2014, IEEE ICC 2013.
- **2008 – At present** Regularly involved as **Reviewer** a dozen time per year for international peer-reviewed journals and international conferences, including IEEE Transaction on Signal processing, IEEE Transaction on Vehicular Technology, IEEE Communications Letters, IEEE GLOBECOM, IEEE ICC, IEEE INFOCOM, IEEE VTC.

INSTITUTIONAL RESPONSIBILITIES

- **2021-At present: Award Co-chair of 2021 N2Women board**, a community in the fields of networking and communications supported by IEEE Communication Society and IEEE Computer Society.
- **2013-At present: Member of the IEEE Technical Committee** on Green Communications & Computing.

- 2011-*At present* **Funding member and treasurer** elected of GAP11, Post Doc Fellows Association, University of Pavia, Italy.
- 2013 – 2017 **Post Doc delegate** elected, Department member, University of Pavia, Dept. ECBE, Italy.

ORGANISATION OF SCIENTIFIC MEETINGS

- 2021-2022: **TPC Chair** at the 9th ACM International Conference on Nanoscale Computing and Communication 2022, ACM NanoCom 2022, Barcelona, Spain.
- 2020-2021: **Publicity Chair** at the 8th ACM International Conference on Nanoscale Computing and Communication 2021, ACM NanoCom 2021, Virtual Event, Italy.
- 2018-2019: **Member of the organizing committee** of the National *Telecommunications and Information Theory Group (GTTI) 2019* meeting for one hundred of participants, Italy.
- Selected as **Symposium Chair** at the IEEE Global Communications Conference 2022, IEEE GLOBECOM 2022, by the IEEE Technical Committee on Green Communications & Computing.
- 2012- *At present*: Often involved as **Technical Program Committee (TPC) member** of several international conferences (more than thirty), such as IEEE ICC 2022, IEEE ICC 2021, IEEE GLOBECOM 2017, IEE ICC 2017, IEEE INFOCOM 2015.
- 2011 – *At present*: Organisation of several **seminars and research meetings** involving international speakers.

Seminars include:

- 1) J. Jornet (Northeastern University, USA) on “THz Communication Networks” within the course “Digital Communications”, May 2022 and 03 May 2021-21 May 2021, University of Pavia (co-organizer, audience: thirty Master and PhD Students, Post Doc and Professors);
- 2) D. Gutierrez (Samsung Electronics R&D Institute UK), “5G Architecture and Network Slicing: A View from 5GPPP and the 5G-MoNArch Project”, February 9, 2018, University of Pavia (co-organizer, audience: twenty PhD Students, Post Doc and Professors);
- 3) K. Chowdhury (Northeastern University, USA), “Intra-body sensors and networks”, December, 20, 2016, University of Pavia, Italy. (co-organizer, audience: thirty Master and PhD Students, Post Doc and Professors);
- 4) A. Trogolo (Telecom Italia), “An overview on Software Defined Radio and Cognitive Radio” Pavia, 17 May, 17, 2012, University of Pavia, Italy. (co-organizer, audience: thirty Master and PhD Students, Post Doc and Professors);
- 5) M. Kuran (Abdullah Gul University, Turkey), “Nanonetworks and Molecular Communication”, October, 17, 2011, University of Pavia. (co-organizer, audience: forty PhD Students, Post Doc and Professors).

Research meetings include:

- 1) “Galvanic coupling intra-body network for medical applications”, involving complementary experts: E. D’Angelo (physiologist), G. Magenes (biomedical engineer), K. Chowdhury (intra-body sensor network expert). June, 19, 2017, University of Pavia (speaker and organizer);
- 2) “Intra-body network for nervous system diseases exploiting galvanic coupling technology”, involving medical doctors specialized in the nervous system: A. Nardone, C. Pavese, B. Aiachini, G. Fizzotti, June, 26, 2018, Neurorehabilitation and Spinal Units, Scientific Institute for Research, Hospitalisation and Health Care “Maugeri” of Pavia. (speaker and organizer).

SUPERVISION OF GRADUATE STUDENTS

- 2013 - *At present*: Co-advisor of 5 PhD Students, TLC & RS Laboratory, Dept. ECBE, University of Pavia.
- 2012 – *At present*: Co-advisor of 4 Master Students, including a Master student within an ERASMUS Traineeship at University of Cambridge, because of her international collaboration with Prof. O. B. Akan, and 3 Bachelor Students.

TEACHING ACTIVITIES

- 2021: Lecturer on Intrabody Networks (1 hour), Department of Electronics and Communication Engineering, Institute of Technology, Nirma University, India, for Faculty members and around forty undergraduate students.
- 2008-*At Present*: Lecturer on Intrabody Networks, Cognitive Radio Networks, OFDM technique (30 hrs), University of Pavia, Italy within courses such as “Digital communications”, “Telecommunication systems” for classes of about fifty undergraduate and master students, and Seminars for PhD students.
- *April 2018*: Lecturer on Wireless Networks of Sensors and Implants (8 hours), Universidad Politècnica de Catalunya, Spain, within the courses “Communication Networks” and “Short Range Communications” for sixty master students.

- *July 2013*: Lecturer on Cognitive Network, IRIS Summer School on Cellular Tech., Greece, 30 Master students.

MAJOR COLLABORATIONS

She has relevant international collaborations and a strong cooperation networks at the EU (Spain, UK, Turkey) and international (USA) level. The latest collaborations include several joint papers of which she is often the principal author, notably 4 joint publications in which she is the first authors with Ian F. Akyildiz, as well as projects, proposals preparation, and ongoing research works. In what follows the most relevant:

- 1) Ian F. Akyildiz, Cognitive Radio Networks, Broadband Wireless Networking Lab, Georgia Tech, US;
- 2) Kaushik Chowdhury, Intrabody Networks and 5G systems, Electrical and Computer Engineering Department, Northeastern University, Massachusetts,
- 3) Ioannis Isaias, Intrabody Sensor Networks for Nervous System Diseases, Department of Neurology, University Hospital Würzburg and JMU Würzburg,
- 4) Ozgur Akan, Intrabody Networks and Dynamic Spectrum Access Networks, Electrical Engineering Division Department of Engineering, University of Cambridge, UK;
- 5) Eduard Alarcon, Intrabody Networks, NaNoNetworking Center in Catalonia (N3Cat) at Universitat Politècnica de Catalunya (UPC), Spain;
- 6) Antonio Nardone, Intrabody Sensor networks for Nervous System Diseases, Neurorehabilitation and Spinal Units, Scientific Institute for Research, Hospitalisation and Health Care “Maugeri” of Pavia;
- 7) Federico Biglioli, Intrabody Sensor Networks for Nervous System Diseases, Maxillofacial Surgery Unit, Santi Paolo e Carlo Hospital, University of Milan, Italy.
- 8) Laura Galluccio, Wearable and Implanted Sensor Networks, University of Catania, Catania, Italy;
- 9) Roberta Borra, Design of a high data rate modem, company “SIAE microelettronica”, Italy.

RESEARCH HIGHLIGHTS

- **Sensor networks and Intra-body networks.** In the area of wireless sensor networks she developed novel compressive sensing techniques and coding schemes for energy efficient identification and transmission solutions. Moreover, in the last years, she got passionate to telecommunication applied to biomedical field and she started to build and lead a multi-disciplinary network with experts in nano-networking, biomedical engineering, and medicine with particular focus on nervous system, in Pavia and Europe (cf. CV – Major collaborations), bridging the gap between communication engineering and medicine. She is working on a *beamforming approach inside the body*, publishing three papers on the topic, and artificial *neural spike communication*, a ground-breaking research approach exploiting ICT competences for nervous injuries. In the last five years she organized several seminars and research meetings involving international speakers on the subjects (cf. CV- Organization of scientific meetings).
- **Social cognitive radio and MmWave 5G systems.** She explored the case of *heterogeneous primary users* in cognitive radio networks, going beyond the state of the art that was considering the primary users as a single abstract generalization of users with higher priority, and also included a *radio environment map*. She cooperated on these topics with research groups at GaTech and UPC, leading to six joint scientific publications of which she is the principal author. She also started a new research line combining the flexibility of cognitive radio with the social network paradigm to develop a “*green*” *architecture*, a novel research perspective in the field. On this topic she has conducted independent research by leading a team in collaboration with the digital content analysis lab at the University of Pavia and publishing papers in this research area. Recently, she is focusing on the challenging subject of multi-user beamforming and combining in massive multiple input multiple output (MIMO), publishing a paper on the topic.

CAREER BREAKS: In 2017 her first son was born (Maternity leave from Aug. 12, 2017 to Jan. 21, 2018). In 2020 her second son was born (Maternity leave from Feb. 25, 2020 to July 25, 2020).

EARLY ACHIEVEMENTS TRACK-RECORD

She has published her research outcomes in several scientific **peer-reviewed journals** and **international conferences**, including the main journals with high impact factor in the field (up to 5.379), such as IEEE Transaction on Vehicular Technology, IEEE Communications Letters, IEEE Sensors Journal, IEEE Access, Springer Journal of Wireless Networks, and the main conferences with acceptance rate around 20%, such as IEEE INFOCOM, IEEE GLOBECOM, IEEE ICC, among the others.

Her publications include but are not limited to *intra-body network* (5 papers); *signal processing transmission techniques* (24 papers); *sensor network and RFID systems* (5 papers); *system architecture* (7 papers).

The full list of publications is reported below (cf. 4. Publications).

1. Invited presentations:

She has been invited to deliver presentations in international peer-reviewed conferences and advanced schools, presenting tutorials and papers in around twenty international conferences, such as ACM NANOCOM 2021, BODYNETS 2019, Crowncom 2016, EURASIP RFID 2015 Workshop, IEEE ICC 2013, IEEE GLOBECOM 2011, IEEE GLOBECOM 2010.

Tutorials:

- L. Galluccio, **A. Vizziello**, P. Savazzi: “INtra-body communication technologieS In smarT healthcarE (INSITE)”, 20th IEEE Mediterranean Electrotechnical Conference (MELECON 2020) - Palermo, Italy, 16-18 June 2020.
- L. Galluccio, **A. Vizziello**, P. Savazzi: “Intra-body communication networks: state of the art and future perspectives”, 12th IEEE Latin-American Conference on Communications Virtual Conference, IEEE LATINCOM 2020, 18-20 November 2020
- L. Galluccio, **A. Vizziello**, P. Savazzi: “Intra-body communication networks: state of the art and future perspectives of ultrasounds and coupling technologies”, IEEE Consumer Communications & Networking Conference Virtual Conference, IEEE CCNC 2021, 9-12 January 2021
- L. Galluccio, **A. Vizziello**, P. Savazzi: “Intra-body embedded networks exploiting ultrasounds and coupling technologies”, International Conference on Embedded Wireless Systems and Networks 2021, EWSN 2021, Delf, The Netherlands, 17-19 February 2021

Besides regular conference papers, **invited papers** from the organizing committee of the international conferences are:

- **A. Vizziello** and L. Favalli: "Smart Distributed System Architecture for Green Communications", 27th IEEE International Conference on Advanced Information Networking and Applications, (invited paper) Barcelona, Spain, March 25-28, 2013.
- **A. Vizziello**, and J. Perez-Romero: "System Architecture in Cognitive Radio Networks using a Radio Environment Map", in Proc. of the 4th International Conference on Cognitive Radio and Advanced Spectrum Management, CogART 2011, (invited paper), Barcelona, Spain, 26-29 Oct. 2011.

The invited **talks** in international advanced schools in telecommunication engineering are:

- **A. Vizziello**: “A new frontier for telecommunications: intrabody networks” Department of Electronics and Communication Engineering, Institute of Technology, Nirma University, India, April 17, 2021.
- **A. Vizziello**: “Wireless Networks of Sensors and Implants” within the international courses “Communication Networks” and “Short Range Communications”, UPC, Barcelona, Spain, April 9-13, 2018.
- **A. Vizziello**: “Intrabody Sensor Networks”, Centre for Health Technologies, Pavia, Italy, October 13, 2016.
- **A. Vizziello**: “Issues in Cognitive Networks”, IRIS Summer School on Cellular Tech., Nafpaktos, Greece, July 11-13, 2013.

2. Academy memberships

- 2020 - At present *IEEE Senior Member (previously IEEE Member since 2009)*;
- 2020 - At present *IEEE Young Professionals Member*;
- 2020 - At present *N2 Women Member*;
- 2019 – At present *IEEE Geoscience and Remote Sensing Society Member*;
- 2019 – At present *IEEE Life Sciences Community Member*;
- 2017 – At present *IEEE Brain Community Member*;
- 2015 – At present *IEEE Collabratec Member*;
- 2015 - At present *National Inter-University Consortium for Telecommunications (CNIT) Member*;
- 2012 - At present *IEEE Communications Society Member*;
- 2012 - At present *IEEE Women in Engineering Member*;
- 2011 - At present *IEEE Technical Committee on Green Communications and Computing (TCGCC) Member*;
- 2010 - At present *National Telecommunications and Information Theory Group (GTIT) Member*.

3. Organization in International Conferences and Review

- She is **TPC Chair** at the ACM International Conference on Nanoscale Computing and Communication 2022, ACM NanoCom 2022.
- She is **Publicity Chair** at the ACM International Conference on Nanoscale Computing and Communication 2021, ACM NanoCom 2021.

- She is **Member of the Organizing Committee** of the National conference of the Telecommunications and Information Theory Group (GTTI) 2019 for one hundred of participants, Italy.
- She has served as **Session Chair** for large audience:
 - at *Bodynets 2019* on “In-body Communications”, Florence, Italy;
 - two Sessions at the international conference *IEEE ICC 2013*, Hungary, on “Spectrum Access and Management” and “Cognitive Radio and Networks Poster”;
 - at *IEEE WIMOB 2008* on “Orthogonal Frequency Division Multiplexing (OFDM)”, France.
- She often serves as **Technical Program Committee (TPC)** member of several international conferences: IEEE ICC 2022, IEEE ICC 2021, ACM NanoCom 2020, IEEE ICC 2020, IEEE ICC 2019, IEEE VTC2019-Fall, IEEE SECON 2019, CROWNCOM 2019, IEEE ICC 2018, IEEE GLOBECOM 2017, IEEE ICC 2017, IEEE VTC Spring 2017, IEEE CORAL 2017, CROWNCOM 2017, IEEE GLOBECOM 2016, IEEE ICC 2016, IEEE CORAL 2016, WD 2016, CROWNCOM 2016, CSCN 2016, IEEE INFOCOM 2015, ACM PE-WASUN 2015, IEEE CORAL 2015, IEEE VTC Fall 2015, IEEE ICC 2015, IEEE VTC Spring 2015, IEEE ICC 2015 MIMO CR Workshop, IEEE GLOBECOM 2014, IEEE INFOCOM 2014, IEEE ICC 2014, INCOS 2014, ACM PE-WASUN 2014, IEEE GLOBECOM 2013, IEEE ICC 2013, IEEE GreenCom 2013, ACM PE-WASUN 2013, IEEE CORAL 2013 and IEEE GLOBECOM 2012.
- She has been **speaker** in around twenty conferences, such as BODYNETS 2019, CROWNCOM 2016, EURASIP RFID 2015 Workshop, IEEE ICC 2013, IEEE AINA 2013, IEEE GLOBECOM 2011, IEEE GLOBECOM 2010, IEEE WIMOB 2008, IEEE ISSSTA 2008.
- She serves as a **Technical Reviewer** for peer-reviewed international Journals and conferences a dozen time per year, such as IEEE Transaction on Signal processing, IEEE Transaction on Vehicular Technology, IEEE Transactions on Biomedical Circuits and Systems, IEEE Transaction on Computers, IEEE Communications Letters, IEEE Wireless Communications Letters, IEEE Access, IEEE Vehicular Technology Magazine, Hindawi Special on Issue "IntraBody Communication (IBC)", Mathematical Computer Modelling Journal (Elsevier), Ad Hoc Networks Journal (Elsevier), Physical Communication (Elsevier), Computer Communications (Elsevier), Computer Network (Elsevier), EURASIP Journal on Wireless Communications and Networking, Sensors (MDPI), Wireless Communications and Mobile Computing (Hindawi), ICST Transactions, High Speed Network Journal; IEEE ICC 2021, ACM NanoCom 2020, IEEE ICC 2020, IEEE ICC 2019, IEEE VTC2019-Fall, IEEE SECON 2019, CROWNCOM 2019, IEEE GLOBECOM 2017, IEEE ICC 2017, IEEE ICC 2016, IEEE GLOBECOM 2016, IEEE CORAL 2016, CROWNCOM 2016, WD 2016, IEEE ICC 2015, IEEE CORAL 2015, IEEE VTC Spring 2015, IEEE GLOBECOM 2014, IEEE ICC 2014, ICT 2014, IEEE GLOBECOM 2013, IEEE ICC 2013, IEEE PIMRC 2013, IEEE GreenComm 2013, IEEE M&N 2013, PE-WASUN 2013, IEEE CORAL 2013, IEEE GLOBECOM 2012, IEEE GLOBECOM 2011, IEEE GLOBECOM 2010, IEEE ISSSTA 2008.

4. Publications

International peer-reviewed journals:

- **A. Vizziello**, P. Savazzi, G. Magenes and P. Gamba, "PHY Design and Implementation of a Galvanic Coupling Testbed for Intra-Body Communication Links," in *IEEE Access*, vol. 8, pp. 184585-184597, 2020, doi: 10.1109/ACCESS.2020.3029862.
- F. Kulsoom, **A. Vizziello**, H. N. Chaudhry and P. Savazzi, "Joint Sparse Channel Recovery with Quantized Feedback for Multi-User Massive MIMO Systems," in *IEEE Access*, vol. 8, pp. 11046-11060, 2020.
- P. Savazzi, E. Goldoni, **A. Vizziello**, L. Favalli and P. Gamba, "A Wiener-Based RSSI Localization Algorithm Exploiting Modulation Diversity in LoRa Networks," in *IEEE Sensors Journal*, vol. 19, no. 24, pp. 12381-12388, 15 Dec.15, 2019.
- P. Savazzi, **A. Vizziello**, D. Benfatto, C. Salvaneschi, "Channel Parameter Acquisition in MIMO LOS Systems for High Capacity Microwave Links," *Physical Communication*, vol. 34, pp. 196-202, June 2019.
- S. Banou, M. Swaminathan, G. R. Muns, D. Duong, F. Kulsoom, P. Savazzi, **A. Vizziello** and K. R. Chowdhury, "Beamforming Galvanic Coupling Signals for IoMT Implant-to-Relay Communication," *IEEE Sensors Journal*, in *IEEE Sensors Journal*, vol. 19, no. 19, pp. 8487-8501, 1 Oct.1, 2019. doi: 10.1109/JSEN.2018.2886561.
- **A. Vizziello**, P. Savazzi and K. R. Chowdhury, "A Kalman Based Hybrid Precoding for Multi-User Millimeter Wave MIMO Systems," in *IEEE Access*, vol. 6, pp. 55712-55722, 2018.
- Goldoni E., Prando L., **Vizziello A.**, Savazzi P., P. Gamba, "Experimental data set analysis of RSSI-based indoor and outdoor localization in LoRa networks," *Internet Technology Letters* 2018:e75. <https://doi.org/10.1002/itl2.75>

- F. Kulsoom, **A. Vizziello**, R. Borra, P. Savazzi, “Reduced complexity Kalman filtering for phase recovery in XPIC systems,” *Physical Communication*, Volume 29, 2018, Pages 112-119, ISSN 1874-4907.
- P. Savazzi, **A. Vizziello**, “A Novel Physical Layer Scheme Based on Superposition Codes,” *EURASIP Journal on Wireless Communications and Networking*, issn: 1687-1499, doi: 10.1186/s13638-017-0927-y, 2017.
- E. Goldoni, P. Savazzi, **A. Vizziello**, “A Novel Channel Coding Scheme for RFID Generation-2 Systems,” *Electronics* 2017, 6(1), 4; doi:10.3390/electronics6010004, 2017
- **A. Vizziello**, R. Amadeo, L. Favalli, “Social Cognitive Cooperation for Device to Device Communications,” *EAI Endorsed Transaction on Cognitive Communications*, vol. 3, ISSN: 2313-4534, doi: 10.4108/eai.31-5-2017.152557, 2017.
- R. Alesii, P. Di Marco, F. Santucci, P. Savazzi, R. Valentini, **A. Vizziello**, “Backscattering UWB/UHF Hybrid Solutions for Multi-Reader Multi-Tag Passive RFID Systems,” *EURASIP Journal on Embedded Systems*, 2016(1), 1-19, DOI: 10.1186/s13639-016-0031-0, 2016.
- **A. Vizziello**, R. Borra, P. Savazzi, “Joint Phase Recovery for XPIC System exploiting Adaptive Kalman Filtering,” *IEEE Communications Letters*, vol. 20, no. 5, pp. 922-925, May 2016, doi: 10.1109/LCOMM.2016.2542798, 2016.
- S. Kianoush, **A. Vizziello**, and P. Gamba, “Energy-efficient and Mobile-aided Cooperative Localization in Cognitive Radio Networks,” *IEEE Transactions on Vehicular Technology*, vol. 65, no. 5, pp. 3450-3461, May 2016.
- **A. Vizziello**, P. Savazzi, “Efficient RFID Tag Identification exploiting hybrid UHF-UWB tags and Compressive Sensing,” *IEEE Sensors Journal*, pp. 1-8, Print ISSN: 1530-437X, Online ISSN: 1558-1748, DOI: 10.1109/JSEN.2016.2551375, 2016.
- **A. Vizziello**, L. Favalli, “Smart Social Architecture for Green Distributed Networks,” *JOURNAL OF HIGH SPEED NETWORKS*, vol. 19; p. 237-250, ISSN 0926-6801, DOI 10.3233/JHS-130475.
- **A. Vizziello**, I. F. Akyildiz, R. Agustí, L. Favalli, P. Savazzi, “Cognitive radio resource management exploiting heterogeneous primary users and a radio environment map database,” *Springer WIRELESS NETWORKS*, ISSN 1022-0038, DOI 10.1007/s11276-012-0528-y.
- **A. Vizziello**, I. F. Akyildiz, R. Agustí, L. Favalli, P. Savazzi, “Characterization and Exploitation of Heterogeneous OFDM Primary Users in Cognitive Radio Networks,” *Springer WIRELESS NETWORKS*, ISSN: 1022-0038, DOI: 10.1007/s11276-012-0519-z.

International conferences:

- **A. Vizziello**, P. Savazzi, G. Magenes, “Electromyography Data Transmission via Galvanic Coupling Intra-body Communication Link,” **Best Paper Award**, 8th ACM International Conference on Nanoscale Computing and Communication, Virtual Conference, Italy, 7-9 September, 2021.
- P. Savazzi, **A. Vizziello**, P. Gamba, “Phase Synchronization in Distributed MIMO CubeSat Links,” 6th Federated and Fractionated Satellite Systems Workshop, UPC Barcelona Tech, May 31- June 1, 2021.
- **A. Vizziello**, P. Savazzi, F. Kulsoom, G. Magenes, P. Gamba, “A Novel Galvanic Coupling Testbed Based on PC Sound Card for Intra-body Communication Links,” in: Mucchi L., Hämmäläinen M., Jayousi S., Morosi S. (eds) *Body Area Networks: Smart IoT and Big Data for Intelligent Health Management*. BODYNETS 2019. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, vol 297. Springer, Cham
- F. Kulsoom, **A. Vizziello**, H. N. Chaudhry and P. Savazzi, “Pilot Reduction Techniques for Sparse Channel Estimation in Massive MIMO,” *IEEE/IFIP International Conference on Wireless On-demand Network Systems and Service WONS 2018*, 6-8 February 2018, Isola 2000, France.
- M. Swaminathan, **A. Vizziello**, D. Duong, P. Savazzi, K. R. Chowdhury, “Beamforming in the Body: Energy-efficient and Collision-free Communication for Implants,” *IEEE INFOCOM 2017*, Atlanta, GA, USA, 1-4 May 2017.
- **A. Vizziello**, R. Amadeo, “Energy Efficient Information Sharing in Social Cognitive Radio Networks,” 11th EAI International Conference on Cognitive Radio Oriented Wireless Networks, Crowncom 2016, Grenoble, France, May 30-June 1, 2016.
- P. Savazzi, **A. Vizziello**, “Carrier Synchronization in Distributed MIMO Satellite Links,” in *Proceeding of IEEE International Conference on wireless for space and extreme environments, IEEE WiSEE 2015*, Orlando, FL, USA, 14-16 Dec. 2015.
- R. Alesii, P. Di Marco, F. Santucci, P. Savazzi, R. Valentini, **A. Vizziello**, “Multi-reader multi-tag architecture for UWB/UHF radio frequency identification systems,” in *Proceeding of EURASIP RFID 2015 Workshop*, Rosenheim, Germany, 22-23 Oct. 2015.

- S. Moscato, R. Moro, M. Bozzi, L. Perregrini, L. Sakouhi, F. Dhawadi, A. Gharsallah, P. Savazzi, **A. Vizziello**, P. Gamba, “Chipless RFID for Space Applications,” IEEE International Conference on Wireless for Space and Extreme Environments, Noordwijk, The Netherlands, 30-31 October 2014.
- L. Favalli, T. E. Kennouche, L. Marangio, **A. Vizziello**, “Cognitive Multimedia Radio Networks,” in Proceedings of European Conference on Networks and Communications, EUCNC 2014, Bologna, Italy, 23-26 June 2014.
- S. Kianoush, **A. Vizziello**, P. Gamba, “A Cooperative Localization Algorithm Exploiting a Mobile Device in Cognitive Radio Networks,” in Proceedings of European Conference on Networks and Communications, EUCNC 2014, Bologna, Italy, 23-26 June 2014.
- **A. Vizziello**, L. Favalli, “Smart Distributed System Architecture for Green Communications,” 27th International Conference on Advanced Information Networking and Applications Workshops, (*invited paper*), Barcelona, 2-28 March 2013, p. 1577-1581, ISBN/ISSN 9781467362399, DOI 10.1109/WAINA.2013.167.
- **A. Vizziello**, S. Kianoush, L. Favalli, P. Gamba, “Location based routing protocol exploiting heterogeneous primary users in cognitive radio networks,” IEEE International Conference on Communications (ICC). Budapest, 9-13 June 2013, p. 2890-2894, ISBN/ISSN 9781467331227, DOI 10.1109/ICC.2013.6654980.
- **A. Vizziello**, I. F. Akyildiz, R. Agustí, L. Favalli, P. Savazzi, “Cognitive Radio Resource Management exploiting Heterogeneous Primary User,” Proceeding of IEEE Globecom 2011. Houston, TX, USA, 5-9 December 2011, Piscataway, NJ, USA:IEEE, ISSN 1930-529X, ISBN 978-1-4244-9266-4, DOI 10.1109/GLOCOM.2011.6134378.
- **A. Vizziello**, J. Perez-Romero, “System Architecture in Cognitive Radio Networks using a Radio Environment Map,” in Proc. of the 4th International Conference on Cognitive Radio and Advanced Spectrum Management, CogART 2011, (*invited paper*), Barcelona, Spain, 26-29 October 2011, ISBN/ISSN 9781450309127, DOI 10.1145/2093256.2093299.
- **A. Vizziello**, I. F. Akyildiz, R. Agustí, L. Favalli, P. Savazzi, “OFDM Signal Type Recognition and Adaptability Effects in Cognitive Radio Networks,” Proceeding of IEEE Globecom 2010. Miami, FL, USA, 6-10 December 2010, Piscataway, NJ, USA: IEEE press.
- **A. Vizziello**, P. Savazzi, L. Favalli, “Mitigation of intercarrier interference in OFDM systems over slow fading channels based on the EM algorithm,” 15th IEEE Mediterranean Electrotechnical Conference. In: Melecon 2010 – 15th IEEE Mediterranean Electrotechnical Conference. Valletta, Malta, 26-28 April 2010, Piscataway: IEEE, p. 1320-1325.
- L. Favalli, P. Savazzi, **A. Vizziello**, “Estimation and Mitigation of Intercarrier Interference for OFDM Systems in Multipath Fading Channels,” IEEE WIMOB proceedings. Avignon, Francia, 12-14 October 2008, ISBN 978-0-7695-3393-3, DOI 10.1109/WiMob.2008.58.
- L. Favalli, P. Savazzi, **A. Vizziello**, “Frequency Domain Estimation and Compensation of Intercarrier Interference in OFDM Systems,” Spread Spectrum Techniques and Applications, 2008. ISSSTA '08. IEEE 10th International Symposium on, pp. 470-474, 25-28 August 2008, ISBN 978-1-4244-2204-3, DOI 10.1109/ISSSTA.2008.93.

National conferences:

- **A. Vizziello**, S. Kianoush, L. Favalli, P. Gamba, “Location based Routing Protocol exploiting Heterogeneous Primary Users in Cognitive Radio Networks,” 10th Italian Networking Workshop, Bormio, Italy, 9-11 January 2013.
- **A. Vizziello**, I. F. Akyildiz, R. Agustí, L. Favalli, and P. Savazzi, “Cognitive Radio Resource Management exploiting Heterogeneous Primary Users,” Gruppo nazionale Telecomunicazioni e Teoria dell'Informazione (GTTI) Annual meeting, GTTI 2011, Taormina, Italy, June 21-22 2011.