Anna VIZZIELLO

Curriculum Vitae

PERSONAL INFORMATION

Scopus Author ID: 25655579800; **ORCID ID**: 0000-0002-6378-141X; **Researcher ID**: H-5893-2012
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EDUCATION

- *21-01-2011*: **Doctor of Philosophy Degree**, 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.
- *05-2007*: **Qualified Engineer**.
- *20-04-2007*: **Laurea (Master-level) 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".

POSITIONS and MOBILITY

- *Feb 2022 - At present:* **Assistant Professor**, Telecommunications & Remote Sensing Laboratory (TLC&RS Lab), Department of Electrical, Computer and Biomedical Engineering (Dept. ECBE), University of Pavia, Italy.
- *July 2023:* **Visiting Researcher**, ECE Dept., Northeastern University, Massachusetts, US, working on new research directions on communication and sensing.
- *Nov 2021 – Jan 2022:* **Senior Researcher** with the **Scholarship** at TLC&RS Lab, Dept. ECBE, University of Pavia, Italy, on "Techniques and algorithms to enhance speech recognition in people with difficulties in verbal communication" within the National TIM Project VOCE – Visual communicator for the automatic translation of vocal sentences in images and symbols.
- *May 2019 – Sept 2021:* **Senior Research Associate** at the 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*".
- *Nov 2014 – Apr 2019*: **Research Associate** at the TLC&RS Lab, under the **Research Grant** from the. 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, US, working on new research directions on communications for implanted sensors.
- *Nov 2010 – Oct 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*".
- *Apr-Oct 2009 and Jan-Oct 2010* **Visiting Researcher**, Broadband Wireless Networking Lab, Georgia Institute of Technology, Georgia, US, under the supervision of Prof. I. F. Akyildiz. The subject was 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*.

- *Oct-June 2007 and Dec 2007 – Nov 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

- *2021-2022:* Nominated **Award Co-chair of 2021-2022 N2Women board**, supported by IEEE Communication Society and IEEE Computer Society, after passing an international open competition.
- *2021:* **Best Paper Award,** ACM NanoCom 2021 Conference for the paper "Electromyography Data Transmission via Galvanic Coupling Intra-body Communication Link".
- *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 Dept. ECBE, 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*: 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.
- *2018*: **Erasmus + Grant** for teaching mobility at UPC Spain after passing 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.

PROJECTS

- *2024-2025* **Role: Unit Coordinator and WP Leader** for WP5 – involved in the proposal writing and in the technical work for the National PNRR Project EMBRACE - Energy-efficient Methods and enaBling technologies for communications, netwoRking, infrastructures and smArt services in Challenging Environments, under the Programme PE RESTART. Total Budget: €147.175
- *2023-2024* **Role: Co-Principal Investigator** – Project 08073822 "Conceptualization, implementation and validation of a proof-of-concept for a wearable device that automatically detects cardiac arrest", under the National Program on Current Research in Health. Total Budget: € 50.000
- *2023* **Role: Project Coordinator** – Project "A framework for student and staff exchange in the area of wireless communication and sensing" for Pavia-USA outgoing mobility, funded by the University of Pavia. Total Budget: € 3.500
- *2020-2022* **Role: Participant** - 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* **Role: Participant** - 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* **Role: 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* **Role: Participant** - responsible for the technical 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* **Role: Participant** - 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

She was selected as an Expert for the Evaluation of Grant proposals and has relevant experience as project proposal evaluator:

- *2024* **Reviewer Evaluator** for Horizon 2024, ICT call, Research Executive Agency (European Commission), Belgium.
- *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.
- *2017* **Proposal Evaluator**, European MANUNET call, Finpiemonte, Italy.
- *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 ACTIVITIES

- *2023 - At present* **Editor** on Elsevier Nano Communication Networks.
- *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.

INSTITUTIONAL RESPONSIBILITIES

- *2023*: **Representative** for Master Thesis at Innova-Tech-Agro Company - Master Degree in Agrifood Sustainability, University of Pavia, Italy.
- *2022:* **Examiner for evaluating the Ph.D. thesis** "Design and Performance Analysis of Massive MIMO for Future Wireless Communication Networks" submitted by Jeyakumar P. (Roll. No: 408119004), Department of Electronics and Communication Engineering, National Institute of Technology Tiruchirappalli - 620 015, Tamil Nadu, India.
- *2022:* **Examiner for evaluating the Ph.D. thesis** "On the exploitation of ML in Infrastructureless networks" – submitted by Joannes Sam Mertens Joseph Thatheys, Department of Electrical, Electronic and Computer Engineering, University of Catania, Italy.

- *2022:* **Committee member** for evaluating the candidates for 3 Research Grants, 3 work performance contracts, 1 Master Degree Award, and the incoming mobility program within the joint ASI - CONAE educational cooperation SIASGE.
- *2021 - At present:* **Award Co-chair of 2021-2022 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.
- *2013 – 2017* **Post Doc delegate** elected, Department member, University of Pavia, Dept. ECBE, Italy.

SUPERVISION OF GRADUATE STUDENTS

- *2023 – At present:* Advisor of a PhD Student (Kayhan Ateş) from Akdeniz University, Turkey, during his visiting period abroad at TLC & RS Laboratory, Dept. ECBE, University of Pavia working on intra-body communication.
- *2023- At present:* Advisor of a Research Fellow (Anna Marcucci) in biomedical engineering working on wireless ECG (TLC & RS Laboratory, Dept. ECBE, University of Pavia), under a Research Grant from IRCSS San Matteo.
- *2013 - At present:* Co-advisor of 6 PhD Students, including international PhD Students, TLC & RS Laboratory, Dept. ECBE, University of Pavia.
- *2012 – At present:* Co-advisor of 6 Master Students, including a Master student (Giulia Muzio) within an ERASMUS Traineeship at University of Cambridge, because of her international collaboration with Prof. O. B. Akan, and a Master student (Marco Lanzetti) visiting Northeastern University because of her international collaboration with Prof. J. M. Jornet, and 5 Bachelor Students.

TEACHING ACTIVITIES

- 2023 - *At present*: Co-coordinator of the course "Signal and Image Processing" and Lecturer for the Course "Signal and Image Processing – Module 2" (28 hrs per a.y.), inter-university Bachelor of Sciences in Artificial Intelligence, **University of Pavia, University of Milano Statale and University of Milano Bicocca** with around forty undergraduate students.
- *2022 - At present*: Lecturer for the exercises' part of the Course "Electrical Communications" (24 hrs per a.y.), **University of Pavia, Italy**, with about one hundred fifty undergraduate students.
- *2022 - At present*: Lecturer for the Course "Wireless sensor systems for monitoring biomedical data and signals" (14 hrs a.y.2022-23, 8 hrs a. y. 2023-2024), **University of Pavia, Italy**, with around thirty master students.
- *July 2023*: Lecturer for the seminar "A new frontier for wireless networks: intra-body communication and sensing for biomedical applications" (1 hour), Institute for the Wireless Internet of Things, **Northeastern University, Boston, MA, US**, for around forty Faculty members and PhD Students both in person and online.
- *April 2021*: Lecturer on Intrabody Networks (1 hour), Department of Electronics and Communication Engineering, Institute of Technology, **Nirma University, India**, for around forty Faculty members and undergraduate students.
- *2008-At Present*: Lecturer on Intrabody Networks, Cognitive Radio Networks, OFDM technique (40 hrs), **University of Pavia, Italy** within courses "Digital communications" and "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 Networks (3 hours), **IRIS Summer School on Cellular Tech., Nafpaktos, Greece**, 30 master students.

MAJOR COLLABORATIONS

She has relevant international collaborations and a strong cooperation network in EU, UK and Turkey and at international (US) 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, US;

3) Ozgur Akan, Intrabody Networks and Dynamic Spectrum Access Networks, Electrical Engineering Division Department of Engineering, University of Cambridge, UK;

4) Eduard Alarcon, Intrabody Networks, NaNoNetworking Center in Catalonia (N3Cat) at Universitat Politècnica de Catalunya (UPC), Spain;

5) Antonio Nardone, Intrabody Sensor networks for Nervous System Diseases, Neurorehabilitation and Spinal Units, Scientific Institute for Research, Hospitalisation and Health Care "Maugeri" of Pavia, Italy;

6) Federico Biglioli, Intrabody Sensor Networks for Nervous System Diseases, Maxillofacial Surgery Unit, Santi Paolo e Carlo Hospital, University of Milan, Italy;

7) David Gutierrez, 5G Architectures, Samsung Electronics R&D Institute UK;

8) Josep Jornet, Next generation 6G systems, Electrical and Computer Engineering Department, Northeastern University, Massachusetts, US;

9) Roberta Borra, Design of a high data rate modem, company "SIAE microelettronica", Italy.

10) Meiqin Che, Signal processing methods for urban change mapping, Nantong University, China.

11) Maurizio Magarini, Wearable and implantable wireless sensor networks, Politecnico di Milano, Italy.

11) Laura Galluccio, Wearable and implantable wireless sensor networks, Università di Catania, Italy.

12) Massimiliano Pierobon, Internet of Bio-Nano Things, University of Nebraska–Lincoln, US.

13) Enrico Baldi, Development of a wearable device for automatic detection of a cardiac arrest, IRCCS Policlinico S. Matteo, Italy.

RESEARCH HIGHLIGHTS

- **Wireless sensor networks and Intra-body sensor networks**. In the area of *wireless sensor networks*, she developed compressive sensing and coding schemes for energy efficient identification and transmissions (4 papers: cf. – Publications 23, 25, 28, 43), and solutions for LoRa networks (5 papers: cf. – Publications 3, 12, 16, 20, 55). Moreover, in the last years, she got passionate to telecommunication applied to biomedical field with the final goal of developing implantable and bio-compatible intra-body wireless sensor networks, for which new communication technologies have been investigated given the harsh intra-body channel conditions. 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), organizing several seminars and research meetings to bridge the gap between communication engineering and medicine. She is working on *transmission inside the human body* (10 papers: cf. – Publications 1, 2, 4, 11, 14, 18, 35, 36, 38, 40), among which some are devoted to nervous system applications (4 papers: cf. – Publications 4, 11, 14, 36), along with a Best Paper Award at the conference ACM NanoCom 2021 (cf. – Publication 36).

- **Signal processing for next generation systems.** She developed digital signal processing methods to identify and explore *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 included a *radio environment map* to improve the spectrum utilization efficiency. She cooperated on these topics with research groups at GaTech and UPC, leading to 5 joint scientific

publications of which she is the principal author (5 papers: cf. – Publications 30, 31, 49, 50, 51). She also started a new research line combining the flexibility of cognitive radio with the social network paradigm to develop an energy efficient *"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 (4 papers: cf. – Publications 24, 29, 41, 47). Recently, she is focusing on applying signal processing techniques and machine learning methods to remote sensing (7 papers: cf. – Publications 6, 7, 8, 9, 10, 13, 33), as well as to 5G/6G systems for multi-user beamforming and channel estimation, with some applications to space communications (7 papers: cf. – Publications 15, 19, 34, 37, 39, 42, 44).

CAREER BREAKS: Maternity leave in 2017 and 2020.

EARLY ACHIEVEMENTS TRACK-RECORD

She has published her research outcomes in several scientific **peer-reviewed journals** and **international conferences** (Scopus, Google Scholar), including the main journals with high impact factor in the field (up to 16.4), such as IEEE Transactions on Communications, IEEE Transactions on Vehicular Technology, IEEE Transaction on Geoscience and Remote Sensing, IEEE Journal on Selected Areas in Communications, IEEE Communications Letters, IEEE Communications Magazine, and the main conferences with acceptance rate around 20%, such as IEEE INFOCOM, IEEE GLOBECOM, IEEE ICC.
Among her publications, 2 publications are invited papers to conferences, 42 papers are without her PhD advisor, in 23 papers she is the first author, and in 10 papers she is the last author.

Her publications include but are not limited to *intra-body networks* (10 papers); *wireless sensor network, RFID and LoRa systems* (9 papers); *signal processing and transmission techniques* (20 papers); *cognitive radios and energy efficient system architectur*es (15 papers).

The full list of publications is reported below (cf. 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.

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

Invited papers from the organizing committee of the international conferences:

- **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.

Invited talks in international advanced schools in telecommunication engineering:

- **A. Vizziello**: "A new frontier for wireless networks: intra-body communication and sensing for biomedical applications", Institute for the Wireless Internet of Things, Northeastern University, Boston, MA, USA, 25 July 2023.
- **A.Vizziello**: Speaker at Women in ACM/IEEE WICE Luncheon, Roundtable discussion on benefits of networking from personal experiences, ACM NanoCom 2022, Barcelona, Spain, October 5-7, 2022.
- **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.

Speaker for papers at international conferences: EAI BODYNETS 2023, ACM NANOCOM 2022, ACM NANOCOM 2021, 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; national conferences: INW 2013, GTTI 2011.

2. Organization in International Conferences and Review

- **General Co-Chair** at the 11th ACM International Conference on Nanoscale Computing and Communication 2024, ACM NanoCom 2024, Milan, Italy, 28-30 October 2024.
- **Program Co-Chair** at the 18th EAI International Conference on Body Area Networks, EAI BODYNETS 2023, Milan, Italy, 6-7 November 2023.
- **Technical Program Committee (TPC) Chair** at the 9th ACM International Conference on Nanoscale Computing and Communication 2022, ACM NanoCom 2022, Barcelona, Spain, 5-7 October 2022.
- **Publicity Chair** at the 8th ACM International Conference on Nanoscale Computing and Communication 2021, ACM NanoCom 2021, Virtual Conference, 7-9 September 2021.
- **Member of the Organizing Committee** of the National conference of the Telecommunications and Information Theory Group (GTTI) 2019 for one hundred of participants, Pavia, Italy, 26-28 June 2019.
- **Session Chair** for large audience:
    - at *ACM NanoCom 2022* on "Poster and Demos", Barcelona, Spain;
    - 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.
- **TPC member** of several international conferences: IEEE ICC 2024, IEEE ICC 2023, EAI BODYNETS 2023, ACM NanoCom 2023, IEEE Healthcom 2022, FITCE 2022, IEEE ICDCS 2022, 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, IEE ICC 2017, IEEE CORAL 2017, CROWNCOM 2017, IEEE GLOBECOM 2016, IEEE ICC 2016, IEEE CORAL 2016, WD 2016, CROWNCOM 2016, IEEE INFOCOM 2015, ACM PE-WASUN 2015, IEEE CORAL 2015, IEEE VTC Fall 2015, IEEE VTC Spring 2015, IEEE ICC 2015, IEEE ICC 2015 MIMO CR Workshop, IEEE GLOBECOM 2014, IEEE INFOCOM 2014, IEEE ICC 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.
- **Technical Reviewer** for peer-reviewed international Journals and conferences a dozen time per year, such as IEEE Transactions on Communications, IEEE Transactions on Signal processing, IEEE Transactions on

Vehicular Technology, IEEE Transactions on Biomedical Circuits and Systems, IEEE Transactions on Computers, Transactions on Mobile Computing, IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, IEEE Journal on Selected Areas in Communications, IEEE Communications Letters, IEEE Wireless Communications Letters, IEEE Access, IEEE Vehicular Technology Magazine, Computer Networks (Elsevier), Ad Hoc Networks (Elsevier), Mathematical Computer Modelling Journal (Elsevier), Physical Communication (Elsevier), Computer Communications (Elsevier), Hindawi Special on Issue "IntraBody Communication (IBC)", EURASIP Journal on Wireless Communications and Networking, Sensors (MDPI), Wireless Communications and Mobile Computing (Hindawi), ICST Transactions, High Speed Network Journal; IEEE ICC 2024, IEEE ICC 2023, EAI BODYNETS 2023, ACM NanoCom 2023, IEEE Healthcom 2022, FITCE 2022, IEEE ICDCS 2022, IEEE ICC 2022, 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.

3. Publications

International peer-reviewed journals:

1. **A. Vizziello**, P. Savazzi, R. R. Guerra and F. Dell'Acqua, "Experimental Channel Characterization of Human Body Communication Based on Measured Impulse Response," in IEEE Transactions on Communications, 2024. doi: 10.1109/TCOMM.2024.3370468. **(IF=8.3)**

2. F. Kulsoom, H. Chaudhry, P. Savazzi, F. Dell'Acqua and **A. Vizziello**, "An Energy-Efficient Carrier Synchronization Method for Galvanic Coupling Intra-Body Communication", JSAC Special Issue on Electromagnetic Nanonetworks: From On-chip Communication to Wearable and Implantable Networks, accepted, 2024. **(IF=16.4)**

3. R. R. Guerra, **A. Vizziello**, P. Savazzi, E. Goldoni, P. Gamba, "Forecasting LoRaWAN RSSI using weather parameters: A comparative study of ARIMA, artificial intelligence and hybrid approaches," Computer Networks, Volume 243, 2024, 110258, ISSN 1389-1286, https://doi.org/10.1016/j.comnet.2024.110258. **(IF=5.6)**

4. **A. Vizziello**, M. Magarini, P. Savazzi, L. Galluccio, "Intra-body communications for nervous system applications: Current technologies and future directions," in Computer Networks, Volume 227, 2023, 109718, ISSN 1389-1286, https://doi.org/10.1016/j.comnet.2023.109718. **(IF=5.6)**

5. F. Vasile, **A. Vizziello**, N. Brondino, P. Savazzi, "Stress State Classification Based on Deep Neural Network and Electrodermal Activity Modeling," Sensors 2023, 23, 2504. https://doi.org/10.3390/s23052504 **(IF=3.9)**

6. L. Wang, X. Wang, **A. Vizziello** and P. Gamba, "RSAAE: Residual Self-Attention-Based Autoencoder for Hyperspectral Anomaly Detection," in IEEE Transactions on Geoscience and Remote Sensing, vol. 61, pp. 1-14, 2023, Art no. 5510614, doi: 10.1109/TGRS.2023.3271719. **(IF=8.2)**

7. X. Wang, L. Wang, Q. Wang, **A. Vizziello** and P. Gamba, "Hyperspectral Target Detection via Global Spatial–Spectral Attention Network and Background Suppression," in IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol. 16, pp. 9011-9024, 2023, doi: 10.1109/JSTARS.2023.3310189. **(IF=5.5)**

8. X. Wang, L. Wang, **A. Vizziello** and P. Gamba, "Hyperspectral Anomaly Detection Based on Multiscale Central Difference Convolution Network," in IEEE Geoscience and Remote Sensing Letters, vol. 20, pp. 1-5, 2023, Art no. 5508005, doi: 10.1109/LGRS.2023.3305814. **(IF=4.8)**

9. Y. Shi, J. Qu, X. Song, Y. Li, H. Song, **A. Vizziello** and P. Gamba, "Parallelized Nonlinear Target Detection for Asbestos Identification in Large-scale Remote Sensing Data," in IEEE Geoscience and Remote Sensing Letters, vol. 19, pp. 1-5, 2022, Art no. 6016005, doi: 10.1109/LGRS.2022.3223673. **(IF=4.8)**

10. M. Che, **A. Vizziello** and P. Gamba, "Spatio-Temporal Urban Change Mapping with Time-Series SAR Data," in IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol. 15, pp. 7222-7234, 2022, doi: 10.1109/JSTARS.2022.3203195. **(IF=5.5)**

11. **A. Vizziello,** L. Galluccio, M. Magarini, P. Savazzi, F. Biglioli, F. Bolognesi, F. Talpo, G. Biella, G. Magenes, "An Implantable System for Neural Communication and Stimulation: Design and Implementation," in IEEE Communications Magazine, vol. 60, no. 8, pp. 74-79, August 2022, doi: 10.1109/MCOM.005.2101090. **(IF=11.2)**

12. E. Goldoni, P. Savazzi, L. Favalli, **A. Vizziello**, "Correlation between weather and signal strength in LoRaWAN networks: An extensive dataset," Computer Networks, Volume 202, 2022, 108627, doi: 10.1016/j.comnet.2021.108627. **(IF= 5.6)**

13. M. Che, **A. Vizziello** and P. Gamba, "Urban Change Pattern Exploration for Megacities using Multi-Temporal Nighttime Light and Sentinel-1 SAR Data," in IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2021, doi: 10.1109/JSTARS.2021.3119419. **(IF=5.5)**

14. **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. **(IF=3.9)**

15. 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, doi: 10.1109/ACCESS.2020.2965280. **(IF=3.9)**

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