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Francisco A. Monteiro

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Curriculum

Francisco Monteiro is Associate Professor in the Dep. of Information Science and Technology at Iscte - University Institute of Lisbon, and a researcher at Instituto de Telecomunicações, Lisbon, Portugal. He holds a PhD from the University of Cambridge, UK, and the Licenciatura and MSc degrees in Electrical and Computer Engineering from IST, University of Lisbon, where he also became a Teaching Assistant. He held visiting research positions at the Universities of Toronto (Canada), Lancaster (UK), Oulu (Finland), and Pompeu Fabra (Barcelona, Spain). He has won two best paper prizes awards at IEEE conferences (2004 and 2007), a Young Engineer Prize (3rd place) from the Portuguese Engineers Institution (Ordem dos Engenheiros) in 2002, and for two years in a row was a recipients of Exemplary Reviewer Awards from the IEEE Wireless Communications Letters (in 2014 and in 2015). He co-edited the book "MIMO Processing for 4G and Beyond: Fundamentals and Evolution", published by CRC Press in 2014. In 2016 he was the Lead Guest Editor of a special issue on Network Coding of the EURASIP Journal on Advances in Signal Processing. He was a general chair of ISWCS 2018 - The 15th International Symposium on Wireless Communication Systems, an IEEE major conference in wireless communications.

Research Interests

Signal Processing for Wireless Communications

Multiple-input multiple output (MIMO)
Wireless Energy Transfer
Detection theory, modulation and coding
Algorithmic lattice theory for MIMO
Multi-antenna; MIMO space-time processing
Physical layer network coding
MIMO Integer-forcing for distributed source-coding
Interference cancellation; In-band full-duplex
Non-orthogonal multiple access (NOMA)
Routing of quantum entanglement in quantum networks

Academic Qualifications

University/Institution	Type	Degree	Period
University of Cambridge	PhD	PhD in Engineering	2012
Universidade de Lisboa, Instituto Superior Técnico	M.Sc.	Engenharia Electrotécnica e de Computadores	2003
Universidade de Lisboa, Instituto Superior Técnico	Licenciate	Engenharia Electrotécnica e de Computadores	1999

Teaching Activities

Teaching Year	Sem.	Course Name	Degree(s)	Coord.
2026/2027	2º	Random Signals in Telecommunications and Computer Engineering	Bachelor Degree in Telecommunications and Computer Engineering;	Yes
2026/2027	2º	Information Coding and Protection	Institutional Degree in Escola de Tecnologias e Arquitetura;	Yes
2026/2027	1º	Modulation and Coding	Bachelor Degree in Telecommunications and Computer Engineering;	No
2025/2026	2º	Random Signals in Telecommunications and Computer Engineering	Bachelor Degree in Telecommunications and Computer Engineering;	Yes
2025/2026	2º	Information Coding and Protection	Institutional Degree in Escola de Tecnologias e Arquitetura;	Yes

2025/2026	1º	Modulation and Coding	Bachelor Degree in Telecommunications and Computer Engineering;	No
2024/2025	2º	Random Signals in Telecommunications and Computer Engineering	Bachelor Degree in Telecommunications and Computer Engineering;	Yes
2024/2025	2º	Information Coding and Protection	Institutional Degree in Escola de Tecnologias e Arquitetura;	Yes
2024/2025	1º	Modulation and Coding	Bachelor Degree in Telecommunications and Computer Engineering;	No
2023/2024	2º	Mathematics Topics for Telecommunications	Bachelor Degree in Telecommunications and Computer Engineering;	Yes
2023/2024	2º	Information Coding and Protection	Institutional Degree in Escola de Tecnologias e Arquitetura;	Yes
2023/2024	1º	Modulation and Coding	Bachelor Degree in Telecommunications and Computer Engineering;	No
2022/2023	2º	Mathematics Topics for Telecommunications	Bachelor Degree in Telecommunications and Computer Engineering;	Yes
2022/2023	1º	Information Processing		No
2022/2023	1º	Modulation and Coding	Bachelor Degree in Telecommunications and Computer Engineering;	No
2021/2022	2º	Mathematics Topics for Telecommunications	Bachelor Degree in Telecommunications and Computer Engineering;	No
2021/2022	2º	Ict'S for Management		No
2021/2022	1º	Information Processing		No
2021/2022	1º	Modulation and Coding	Bachelor Degree in Telecommunications and Computer Engineering;	No
2020/2021	2º	Mathematics Topics for Telecommunications	Bachelor Degree in Telecommunications and Computer Engineering;	No
2020/2021	1º	Information Processing		No
2020/2021	1º	Modulation and Coding	Bachelor Degree in Telecommunications and Computer Engineering;	No
2019/2020	2º	Signal Theory		No
2018/2019	1º	Ict'S for Management	Bachelor Degree in Human Resources Management;	No
2017/2018	2º	Signal Theory		Yes

2017/2018	1º	Modulation and Coding		No
2016/2017	2º	Signal Theory		Yes
2016/2017	2º	Signal Theory		Yes
2016/2017	1º	Modulation and Coding		No
2016/2017	1º	Mechanics and Electricity	Bachelor Degree in Computer Engineering (PL); Bachelor Degree in Computer Engineering;	No
2016/2017	1º	Mechanics and Electricity	Bachelor Degree in Computer Engineering (PL); Bachelor Degree in Computer Engineering;	No
2015/2016	2º	Signal Theory		Yes
2015/2016	2º	Signal Theory		Yes
2015/2016	1º	Mechanics and Electricity	Bachelor Degree in Computer Engineering;	No
2014/2015	2º	Signal Theory		Yes
2014/2015	2º	Signal Theory		Yes
2013/2014	2º	Signal Theory		Yes
2013/2014	2º	Signal Theory		Yes

Supervisions

• Ph.D. Thesis

- Concluded

	Student Name	Title/Topic	Language	Institution	Concluding Year
1	Sahar Allahkaram	Signal Processing and Coding Techniques for 6G Ultra-reliable Low-latency Wireless Machine-type Communications	English	Iscte	2026

• M.Sc. Dissertations

- Concluded

	Student Name	Title/Topic	Language	Institution	Concluding Year
1	Pedro Jorge Martins Teixeira	Distributed Source Coding Based on Integer-Forcing	English	Instituto Superior Técnico	2018

2	Ricardo José Neves Alberto	Assessment of Non-orthogonal Multiple Access for 5G Systems	English	Instituto Superior Técnico	2016
3	Nuno Bettencourt Coelho	Implementation of Linear Network Coding Over a Flexible Emulator	English	Iscte	2016
4	Francisco Miguel Teixeira do Rosário	Massive MIMO Processing for 5G Systems: Efficient Detection Algorithms and Applications	English	Instituto Superior Técnico	2015
5	João Francisco Aragão Aboim de Sande e Lemos	In-band Full-duplex Architectures for Future 5G Multi-hop Networks	English	Instituto Superior Técnico	2015
6	Pedro Valério Catarino Miguel	The Limits of MIMO with Large Antenna Arrays	English	Instituto Superior Técnico	2014
7	Flávio André Silva Brás	Interference Suppression using MIMO and Physical Layer Network Coding	English	Instituto Superior Técnico	2014
8	Filipe Manuel Alves Ennes Ferreira	Lattice-based Physical Layer Network Coding	English	Iscte	2014

Total Citations

Web of Science®	279
Scopus	337

Publications

- **Scientific Journals**

- Scientific journal paper

1	Allahkaram, S., Monteiro, F. A., Ribeiro, J. & Salema, C. (2026). Largely constrained noise-guessing decoding of short LDPC codes. IEEE Open Journal of the Communications Society, 7, 13959?13977. https://doi.org/10.1109/OJCOMS.2026.3725587
2	Allahkaram, S., Monteiro, F. A. & Chatzigeorgiou, I. (2025). Constrained symbol-level noise-guessing decoding with antenna sorting for massive MIMO. IEEE Open Journal of the Communications Society, N/A. https://doi.org/10.1109/OJCOMS.2025.3630551 - Times Cited Web of Science®: 4 - Times Cited Scopus: 4 - Times Cited Google Scholar: 12
3	Cruz, D., Monteiro, F. A., Roque, A. & Coutinho, B. C. (2025). Fault-tolerant noise guessing decoding of quantum random codes. IEEE Transactions on Quantum Engineering, 6. https://doi.org/10.1109/TQE.2025.3595778 - Times Cited Web of Science®: 2 - Times Cited Scopus: 2 - Times Cited Google Scholar: 5

4	Roque, A., Cruz, D., Monteiro, F. A. & Coutinho, B. C. (2024). Efficient entanglement purification based on noise guessing decoding. Quantum, 8, 1476?1500. https://doi.org/10.22331/q-2024-09-19-1476 - Times Cited Web of Science®: 4 - Times Cited Scopus: 6 - Times Cited Google Scholar: 12
5	Cruz, D., Monteiro, F. A. & Coutinho, B. C. (2023). Quantum error correction via noise guessing decoding. IEEE Access, 11, 119446?119461. https://doi.org/10.1109/ACCESS.2023.3327214 - Times Cited Web of Science®: 12 - Times Cited Scopus: 16 - Times Cited Google Scholar: 35
6	Bugalho. L., Coutinho, B. C., Monteiro, F. A. & Omar, Y. (2023). Distributing multipartite entanglement over noisy quantum networks. Quantum, 7. https://doi.org/10.22331/q-2023-02-09-920 - Times Cited Web of Science®: 63 - Times Cited Scopus: 59 - Times Cited Google Scholar: 104
7	Santos, S., Monteiro, F. A., Coutinho, B. C. & Omar, Y. (2023). Shortest path finding in quantum networks with quasi-linear complexity. IEEE Access, 11, 7180?7194. https://doi.org/10.1109/ACCESS.2023.3237997 - Times Cited Web of Science®: 15 - Times Cited Scopus: 19 - Times Cited Google Scholar: 29
8	Chatzigeorgiou, I & Monteiro, F. A. (2023). Symbol-level GRAND for high-order modulation over block fading channels. IEEE Communications Letters, 27(2), 447?451. https://doi.org/10.1109/LCOMM.2022.3227593 - Times Cited Web of Science®: 13 - Times Cited Scopus: 16 - Times Cited Google Scholar: 27
9	Rosário, F. & Monteiro, F. A. (2022). Gibbs sampling detection for large MIMO and MTC uplinks with adaptive modulation. Sensors, 22(4). https://doi.org/10.3390/s22041309 - Times Cited Web of Science®: 1 - Times Cited Scopus: 2 - Times Cited Google Scholar: 1
10	Monteiro, F. A., Lopez, O. L. A. & Alves, H. (2021). Massive wireless energy transfer with statistical CSI beamforming. IEEE Journal of Selected Topics in Signal Processing, 15(5), 1169?1184. https://doi.org/10.1109/JSTSP.2021.3090962 - Times Cited Web of Science®: 19 - Times Cited Scopus: 20 - Times Cited Google Scholar: 31
11	Lopez, O. L. A., Monteiro, F. A., Alves, H., Zhang, R. & Latva-Aho, M. (2021). A low-complexity beamforming design for multiuser wireless energy transfer. IEEE Wireless Communications Letters, 10(1), 58?62. https://doi.org/10.1109/lwc.2020.3020576 - Times Cited Web of Science®: 39 - Times Cited Scopus: 44 - Times Cited Google Scholar: 60
12	Lemos, J. S., Monteiro, F. A., Sousa, I. & Ferreira, F. E. (2017). Efficient message exchange protocols exploiting state-of-the-art PHY layer. EURASIP Journal on Wireless Communications and Networking, 2017. https://doi.org/10.1186/s13638-017-0850-2 - Times Cited Web of Science®: 4 - Times Cited Scopus: 4 - Times Cited Google Scholar: 4

13	Rosário, F., Monteiro, F. A. & Rodrigues, A. (2016). Fast matrix inversion updates for massive MIMO detection and precoding. IEEE Signal Processing Letters, 23(1), 75?79. https://doi.org/10.1109/LSP.2015.2500682 - Times Cited Web of Science®: 44 - Times Cited Scopus: 51 - Times Cited Google Scholar: 70
14	Monteiro, F. A. (2009). Faster and faster: a look at the remarkable achievements in error-free digital communications. BlueSci, 15, 14?15.
15	Monteiro, F. A. & Rodrigues, A. J. (2005). Limits for CPM signals representation by Walsh functions. International Journal of Microwave and Wireless Technologies, 1, 82?86. - Times Cited Google Scholar: 3
16	Monteiro, F. A. & Rodrigues, A. J. (2005). Phase error resilience to I/Q mismatch of a simplified CPM receiver. IEEE Microwave and Wireless Components Letters, 15(9), 549?551. https://doi.org/10.1109/LMWC.2005.855388 - Times Cited Scopus: 1 - Times Cited Google Scholar: 2

- Scientific journal editor

1	Monteiro, F. A., Burr, A., Chatzigeorgiou, I, Camilla, H., Krikidis, I., Seferoglu, H....Skachek, V (2017). EURASIP Journal on Advances in Signal Processing. Springer.

- Editorial

1	Monteiro, F. A., Burr, A., Chatzigeorgiou, I., Camilla, H., Krikidis, I., Seferoglu, H....Skachek, V. (2017). Editorial - Special issue on network coding. EURASIP Journal on Advances in Signal Processing, 2017, 1?3. https://doi.org/10.1186/s13634-017-0463-2 - Times Cited Web of Science®: 7 - Times Cited Scopus: 9

• Books and Book Chapters

- Book editor

1	Monteiro, F. A. & M. Marques da Silva (2014). MIMO Processing for 4G and Beyond: Fundamentals and Evolution. CRC / Taylor & Francis Group. - Times Cited Web of Science®: 3 - Times Cited Google Scholar: 82

- Book chapter

1	Monteiro, F. A., Souto, N. & Wassell, I. J. (2014). MIMO Detection Methods. In M. Marques da Silva, F. A. Monteiro (Ed.), MIMO Processing for 4G and Beyond: Fundamentals and Evolution (pp. 47?117). CRC Press / Taylor and Francis Group. - Times Cited Web of Science®: 2

2	Souto, N. & Monteiro, F. A. (2014). MIMO optimized for OFDM. In M. Marques da Silva, F. A. Monteiro (Ed.), MIMO Processing for 4G and Beyond: Fundamentals and Evolution, (pp. 159?209). CRC Press / Taylor and Francis Group. - Times Cited Google Scholar: 3

• Conferences/Workshops and Talks

- Publication in conference proceedings

1	Ferraz, O., Coutinho, B. C., Falcão, G., Gomes, M., Monteiro, F. A. & Silva, V. (2025). GPU-accelerated syndrome decoding for quantum LDPC codes below the 63 µs latency threshold. In Michael B. Matthews (Ed.), 2025 59th Asilomar Conference on Signals, Systems, and Computers (pp. 1878?1882). IEEE. https://doi.org/10.1109/IEEECONF67917.2025.11443687 - Times Cited Scopus: 1 - Times Cited Google Scholar: 7
2	Allahkaram, S. & Monteiro, F. A. (2025). Uniquely decodable signature sequences over the noisy adder channel. 2025 International Symposium on Networks, Computers and Communications, ISNCC 2025. IEEE. https://doi.org/10.1109/ISNCC66965.2025.11250456
3	Allahkaram, S., Monteiro, F. A. & Chatzigeorgiou, I. (2022). URLLC with coded massive MIMO via random linear codes and GRAND. 2022 IEEE 96th Vehicular Technology Conference (VTC2022-Fall). IEEE. https://doi.org/10.1109/VTC2022-Fall57202.2022.10012803 - Times Cited Web of Science®: 9 - Times Cited Scopus: 9 - Times Cited Google Scholar: 20
4	Alberto, R. & Monteiro, F. A. (2020). Downlink MIMO-NOMA with and without CSI: A short survey and comparison. 2020 12th International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP). IEEE. https://doi.org/10.1109/csndsp49049.2020.9249527 - Times Cited Scopus: 9 - Times Cited Google Scholar: 15
5	Coelho, N. B., Monteiro, F. A. & Lopes, R. J. (2019). Self-adapting linear network coding emulation. IEEE International Symposium on Networks, Computers and Communications (ISNCC) (pp. 1?7). IEEE. https://doi.org/10.1109/ISNCC.2019.8909124
6	Ferreira, F. E., Monteiro, F. A. & Sousa, I. (2016). Full-duplex MIMO and PLNC for the Y-network. In Mavromoustakis, C., Louca, S., Pattichis, C. S., Georgiou, J., Michael, D., Paschalidou, A., Kyriacou, E., Vassiliou, V., Panayiotou, C., Kyriakides, E., Ellinas, G., Hadjichristofi, G., and Loizou, C. (Ed.), 2016 18th Mediterranean Electrotechnical Conference (MELECON). IEEE. https://doi.org/10.1109/MELCON.2016.7495429 - Times Cited Google Scholar: 1
7	Lemos, J. S. & Monteiro, F. A. (2016). Full-duplex massive MIMO with physical layer network coding for the two-way relay channel. 2016 IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM). IEEE. https://doi.org/10.1109/SAM.2016.7569755 - Times Cited Google Scholar: 17
8	João Sande Lemos, Monteiro, F. A., Ivo Sousa & António J. Rodrigues (2015). Full-duplex relaying in MIMO-OFDM frequency-selective channels with optimal adaptive filtering. In José M. F. Moura, Dapeng Oliver Wu (Ed.), 2015 IEEE Global Conference on Signal and Information Processing (GlobalSIP). IEEE. https://doi.org/10.1109/GlobalSIP.2015.7418364 - Times Cited Web of Science®: 9 - Times Cited Scopus: 11 - Times Cited Google Scholar: 16

9	João Sande Lemos, Francisco Rosário, Monteiro, F. A., João Xaviel & António J. Rodrigues (2015). Massive MIMO full-duplex relaying with optimal power allocation for independent multipairs. In IEEE (Ed.), 16th IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC). IEEE. https://doi.org/10.1109/SPAWC.2015.7227049 - Times Cited Web of Science®: 10 - Times Cited Scopus: 13 - Times Cited Google Scholar: 21
10	Brás, F., Ferreira, F., Monteiro, F. A. & Rodrigues, A. (2014). Interference suppression with physical-layer network coding and MIMO for multi-way channels. In IEEE (Ed.), Proceedings of the 2014 IEEE Workshop on Signal Processing Systems. IEEE. https://doi.org/10.1109/SiPS.2014.6986065 - Times Cited Scopus: 2 - Times Cited Google Scholar: 3
11	Monteiro, F. A. (2012). Demixing Radio Waves in MIMO Spatial Multiplexing: Geometry-based Receivers. 6º Congresso do Comité Português da URSI (pp. 1?20). ICP- ANACOM (Autoridade Nacional de Comunica¿¿es).
12	Monteiro, F. A. & Kschischang, F. R. (2011). Trellis detection for random lattices. In IEEE Communications Society, IEEE Information Theory Society (Ed.), International Symposium on Wireless Communication Systems (pp. 755?759). IEEE. https://doi.org/10.1109/ISWCS.2011.6125450 - Times Cited Scopus: 6 - Times Cited Google Scholar: 9
13	Monteiro, F. A. & Wassell, I. J. (2011). Dual-Lattice-Aided MIMO Detection for Slow Fading Channels. Proceedings of IEEE International Symposium on Signal Processing and Information Technology (pp. 502?507). IEEE signal Processing Society. - Times Cited Web of Science®: 1 - Times Cited Scopus: 2 - Times Cited Google Scholar: 3
14	Monteiro, F. A. & Wassell, I. J. (2010). Recovery of a Lattice Generator Matrix from its Gram Matrix for Feedback and Precoding in MIMO. Proceedings of the 4th International Symposium on Communications, Control and Signal Processing. IEEE. - Times Cited Scopus: 8 - Times Cited Google Scholar: 14
15	Monteiro, F. A. & Wassell, I. J. (2007). Euclidean Distances in Quantized Spaces with Pre-stored Components for MIMO Detection. Proceedings of ECWT' 07 -10th European Conference on Wireless Technology - 10th European Microwave Week. IEEExplore. - Times Cited Scopus: 4 - Times Cited Google Scholar: 5
16	Monteiro, F. A. & Wassell, I. J. (2007). Efficient Scalar Quantization for MIMO Spatial Multiplexing Receivers. Proceedings of ISCTA' 07 - 9th International Symposium on Communication Theory and Applications. - Times Cited Google Scholar: 2
17	Monteiro, F. A. & Wassell, I. J. (2007). Progressive Hypercube Decoding. Proceedings of ISWCS'07 - The 4th IEEE International Symposium on Wireless Communication Systems. IEEE. - Times Cited Google Scholar: 1
18	Monteiro, F. A. & António J. Rodrigues (2004). CPM reception combining complexity reduction techniques for schemes on minimum euclidian distance upper bound and MSK. Proc. of ISIT - IEEE International Symposium on Information Theory. https://doi.org/10.1109/ISIT.2004.1365257 - Times Cited Scopus: 3 - Times Cited Google Scholar: 6

19	Monteiro, F. A. & António J. Rodrigues (2004). Assessment of a Quasi-Optimum Very Low Complexity CPM Receiver over Flat Rayleigh Fading Channels. Proceedings of VTC 2004 Spring – IEEE Semiannual Vehicular Technology Conference (pp. 1139?1143). IEEE.
20	Monteiro, F. A. & Rodrigues, A. J. (2004). The M-algorithm on the detection of CPM schemes on the minimum euclidian distance upper bound. In Prasad, R., and Nikookar, H. (Ed.), 7th European Conference on Wireless Technology (ECWT '04) (pp. 37?40). IEEE. - Times Cited Scopus: 2 - Times Cited Google Scholar: 5
21	Monteiro, F. A. & Rodrigues, A. J. (2004). Limits for CPM signals representation by walsh functions. In Prasad, R., and Nikookar, H. (Ed.), 7th European Conference on Wireless Technology (ECWT '04) (pp. 33?36). IEEE. - Times Cited Scopus: 2
22	Monteiro, F. A. & António J. Rodrigues (2001). Sub-Optimum Detection of Coded Continuous Phase Modulation in Radio Channels. Proceedings of ConfTele2001- 3th National Conference on Telecommunications (pp. 594?598). - Times Cited Google Scholar: 1
23	Monteiro, F. A. & António J. Rodrigues (2001). Simple Metrics Derivation for a Discrete Time Continuous Phase Modulation Receiver. Proceedings of WPMC' 01- The 4th International Symposium on Wireless Personal Multimedia Communications (pp. 395?400). - Times Cited Google Scholar: 5
24	Monteiro, F. A. & Correia, L. (2000). Mobility Effects on Teletraffic in GSM. XV Simposium Nacional de la Union Cientifica Internacional de Radio (pp. 445?446).
25	Monteiro, F. A. & Cercas, F. (2000). Understanding digital communication physical layer. XV Simposium Nacional de la Union Cientifica Internacional de Radio (pp. 307?308). URSI.
26	Monteiro, F. A. & Cercas, F. (1999). Simulador de Transmissões Digitais. Proceedings of JETC' 99 - Jornadas de Engenharia de Telecomunicações e Computadores (pp. 43?47). ISEL.

- Talk

1	Monteiro, F. A. (2025). Signal Theory and Sound. Specialisation Course on Audiology for Otorhinolaryngology medical doctors (Lusíadas Hospital),.
2	Monteiro, F. A. (2025). Signals and Codes in Wireless Communications. "What Abbouts" IT-Lisbon Seminar Series,.
3	Monteiro, F. A. (2025). Constrained Noise-guessing Decoding of Short LDPC Codes. German Aerospace Center (DLR) Meeting, Munich,.
4	Allahkaram, S. & Monteiro, F. A. (2025). Uniquely Decodable Signature Sequences Over the Noisy Adder Channel. 12th International Symposium on Networks, Computers and Communications (ISNCC'25),. https://doi.org/ISNCC66965.2025.11250456
5	Monteiro, F. A., Ferraz, O., Coutinho, B. C., Gomes, M., Falcão, G. & Silva, V. (2025). GPU-Accelerated Syndrome Decoding for Quantum LDPC Codes below the 63 microsecond Latency Threshold. Asilomar Conference on Signals, Systems, and Computers,.

6	Cruz, D., Monteiro, F. A. & Coutinho, B. C. (2023). Quantum Error Correction via Noise Guessing Decoding. Theory of Quantum Computation, Communication and Cryptography (TQC),. - Times Cited Google Scholar: 6
7	Allahkaram, S., Monteiro, F. A. & Chatzigeorgiou, I (2023). URLLC with Coded Massive MIMO via Random Linear Codes and GRAND. 33º Seminário Rede Temática de Comunicações Móveis (RTCM),.
8	Allahkaram, S., Monteiro, F. A. & Chatzigeorgiou, I (2022). URLLC with Coded Massive MIMO via Random Linear Codes and GRAND. IEEE 96th Vehicular Technology Conference (VTC 2022 - Fall),.
9	Bugalho. L., Coutinho, B. B, Monteiro, F. A. & Omar, Y. (2022). Distributing Multipartite Entanglement over Noisy Quantum Networks. NetSci-X: International School and Conference on Network Science,. - Times Cited Google Scholar: 9
10	Alberto, Ricardo & Monteiro, F. A. (2020). Downlink MIMO-NOMA With and Without CSI: A Short Survey and Comparison. 12th International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP),.
11	Coelho, Nuno B. , Monteiro, F. A. & Lopes, Rui J. (2019). Self-adapting linear network coding emulation. IEEE International Symposium on Networks, Computers and Communications (ISNCC'19),.
12	Monteiro, F. A. (2019). Distributed Source Coding based on Integer-Forcing. UPF Wireless Communications Seminars,.
13	Monteiro, F. A. (2019). A Research Outlook on Wireless Communications (and Quantum Communications). Machine-Type Wireless Communications Seminars,.
14	Monteiro, F. A. (2019). Distributed Source Coding based on Integer-Forcing. Visiting Lectures Seminars of the Centre for Wireless Communications,.
15	Monteiro, F. A. (2019). A Research Outlook on Wireless Communications and Quantum Communications. Seminars of the IRIDA Research Centre for Communication Technologies,.
16	Monteiro, F. A. (2017). Increasing the Capacity of Wireless Communications by Exploiting Signal's Interference. Seminários do Instituto de Sistemas e Robótica,.
17	Monteiro, F. A. (2017). Boosting Capacity through Interference in 5G. 22º Seminário RTCM (Rede Temática de Comunicações Móveis),.
18	Filipe Ennes Ferreira, Monteiro, F. A. & Ivo Sousa (2016). Full-Duplex MIMO and PLNC for the Y-Network. 18th Mediterranean Electrotechnical Conference (MELECON -1016), -, ???. - Times Cited Scopus: 1
19	João Sande Lemos & Monteiro, F. A. (2016). Full-duplex massive MIMO with physical layer network coding for the two-way relay channel. IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM),. - Times Cited Scopus: 11
20	Monteiro, F. A. (2016). Fast Matrix Inversion Updates for Massive MIMO Detection and Precoding. 41st IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2016),.

21	João Sande Lemos, Francisco Rosário, Monteiro, F. A., João Xaviel & António J. Rodrigues (2015). Massive MIMO Full-Duplex Relaying with Optimal Power Allocation for Independent Multipairs. 16th IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC),, 306?310. - Times Cited Web of Science®: 10
22	João Sande Lemos, Monteiro, F. A., Ivo Sousa & António J. Rodrigues (2015). Full-Duplex Relaying in MIMO-OFDM Frequency-Selective Channels with Optimal Adaptive Filtering. 3rd IEEE Global Conf. on Signal and Information Processing (GlobalSIP), -, ???. - Times Cited Web of Science®: 8
23	Monteiro, F. A. (2015). Signal processing in the upcoming wireless networks: Untangling signals in space, in spectrum, and network coded. DARNEC'15 - Design and Application of Random Network Codes,.
24	Flávio Brás, Filipe Ennes Ferreira, Monteiro, Francisco A. & António J. Rodrigues (2014). Interference Suppression with Physical-Layer Network Coding and MIMO for Multi-Way Channels. 2014 IEEE International Workshop on Signal Processing Systems,.
25	Monteiro, F. A. (2014). Approaches to the Closest Vector Problem in MIMO Detection. Seminar Cycle of the Master in Electrical and Computer Engineering of the University of Cyprus,.
26	Flávio Brás, Filipe Ennes Ferreira & Monteiro, F. A. (2014). Physical Layer Network Coding in a Network with a MIMO relay. IEEE European School on Information Theory,.
27	Monteiro, F. A. (2012). Demixing Radio Waves in MIMO Spatial Multiplexing: Geometry-based Receivers. 6º Congresso do Comité Português da URSI,, 1?20.
28	Monteiro, F. A. & Wassell, I. J. (2011). Dual-Lattice-Aided MIMO Detection for Slow Fading Channels. Proceedings of IEEE International Symposium on Signal Processing and Information Technology,, 502?507.
29	Monteiro, F. A. & Kschischang, F. R. (2011). Trellis detection for random lattices. International Symposium on Wireless Communication Systems,, 755?759.
30	Monteiro, F. A. & Wassell, I. J. (2010). Recovery of a Lattice Generator Matrix from its Gram Matrix for Feedback and Precoding in MIMO. Proceedings of the 4th International Symposium on Communications, Control and Signal Processing,.
31	Monteiro, F. A. (2008). Digital communications: fundamentals, limits and present challenges. Fitzwilliam College Graduate Conference,.
32	Monteiro, F. A. & Wassell, I. J. (2007). Efficient Scalar Quantization for MIMO Spatial Multiplexing Receivers. Proceedings of ISCTA' 07 - 9th International Symposium on Communication Theory and Applications,.
33	Monteiro, F. A. & Wassell, I. J. (2007). Euclidean Distances in Quantized Spaces with Pre-stored Components for MIMO Detection. Proceedings of ECWT' 07 -10th European Conference on Wireless Technology - 10th European Microwave Week,.
34	Monteiro, F. A. & Wassell, I. J. (2007). Progressive Hypercube Decoding. Proceedings of ISWCS'07 - The 4th IEEE International Symposium on Wireless Communication Systems,.
35	Monteiro, F. A. & Wassell, I. J. (2007). Quantized lattices in MIMO. The 2007 IEEE International Symposium on Information Theory,.
36	Monteiro, F. A. (2006). Contour detection for digital communications. Industrial Showcase,.

37	Monteiro, F. A. (2004). Limits for CPM Signals Representation by Walsh Functions. Proceedings of ECWT '04 - The European Conference on Wireless Technology - European Microwave Week, 1, 33?36.
38	Monteiro, F. A. & António J. Rodrigues (2004). CPM reception combining complexity reduction techniques for schemes on minimum euclidian distance upper bound and MSK. Proc. of ISIT - IEEE International Symposium on Information Theory,.
39	Monteiro, F. A. & António J. Rodrigues (2004). Assessment of a Quasi-Optimum Very Low Complexity CPM Receiver over Flat Rayleigh Fading Channels. Proceedings of VTC 2004 Spring – IEEE Semiannual Vehicular Technology Conference,, 1139?1143.
40	Monteiro, F. A. & Wassell, I. J. (2004). The M-algorithm on the Detection of CPM Schemes on the Minimum Euclidian Distance Upper Bound. Proceedings of ECWT '04 – The European Conference on Wireless Technology - European Microwave Week, 1, 37?40.
41	Monteiro, F. A. & António J. Rodrigues (2001). Sub-Optimum Detection of Coded Continuous Phase Modulation in Radio Channels. Proceedings of ConfTele2001- 3th National Conference on Telecommunications, 1, 594?598.
42	Monteiro, F. A. & António J. Rodrigues (2001). Simple Metrics Derivation for a Discrete Time Continuous Phase Modulation Receiver. Proceedings of WPMC' 01- The 4th International Symposium on Wireless Personal Multimedia Communications, 1, 395?400.
43	Monteiro, F. A. & Correia, L. (2000). Mobility Effects on Teletraffic in GSM. Proceedings of URSI 2000 - XV Simposium Nacional de la Union Cientifica Internacional de Radio, 1, 445?446.
44	Monteiro, F. A. & Cercas, F. (1999). Simulador de Transmissões Digitais. Proceedings of JETC' 99 - Jornadas de Engenharia de Telecomunicações e Computadores, 1, 43?47.

• Other Publications

- Other publications

1	Monteiro, F. A. (2009). Baffling Points. Submitted to the 2009 math writing competition of Plus Magazine, Cambridge. Copyright belongs to Plus Magazine.,.

Research Projects

Project Title	Role in Project	Partners	Period
QIA – Quantum Internet Alliance	Local Coordinator	IT-Iscte	2018 - 2021
Large-Dimensional MIMO Physical Layer Network Coding	Local Coordinator	IT-Iscte	2014 - 2016

Network error control for Rapid and Reliable Data Delivery	Global Coordinator	IT-Iscte	2014 - 2015
ICT COST Action IC1104 - Random Network Coding and Designs over GF(q)	Local Coordinator	IT-Iscte	2020
Radio resource optimization in third generation mobile systems	Local Coordinator	IT-Iscte	2000 - 2004

Academic Management Positions

Sub-diretor (2017 - 2020)
Unit/Area: Institute of Telecommunications-IUL

Membro (2017 - 2020)
Unit/Area: Comissão Científica

Membro (Docente) (2017 - 2020)
Unit/Area: Plenário da Comissão Científica

Coordenador do 2º Ano (2016 - 2018)
Unit/Area: Bachelor Degree in Telecommunications and Computer Engineering

Coordenador do 2º Ano (2016 - 2018)
Unit/Area: [8365] Telecommunications and Computer Engineering (PL)

Coordenador do 2º Ano (2014 - 2016)
Unit/Area: [8365] Telecommunications and Computer Engineering (PL)

Coordenador do 2º Ano (2014 - 2016)
Unit/Area: Bachelor Degree in Telecommunications and Computer Engineering

Coordenador (2012 - 2015)
Unit/Area: Department of Information Science and Technology

Awards

Sabatical Scholarship by Fundacíon Endesa (Spain) and Fundación Carolina (Spain) (2019)

Exemplary Reviewer Award 2015, from the the IEEE Wireless Communications Letters, a 1st-quartile journal co-sponsored by the IEEE Communications Society, the IEEE Signal Processing Society, and the IEEE Vehicular Technology Society. The prize is awarded to the top 3% best reviewers nominated by the associate editors. (2016)

Co-supervisor of the two theses of the winners (ex aequo) of the Luís Vidigal Prize 2015. Students: J. S. Lemos, F. Rosário; co-supervisor: A. J. Rodrigues, This prize awards the Best MSc Thesis of the Year at IST in the fields of Electrical and Computer Engineering, Compute Science, and related fields, completed in 2015. Mr. Francisco Rosário and Mr. João Sande Lemos were both scholars under the L-DIMM-NetCod project in our group. (2016)

Exemplary Reviewer Award 2014, From the IEEE Wireless Communications Letters, a 1st-quartile journal co-sponsored by the IEEE Communications Society, the IEEE Signal Processing Society, and the IEEE Vehicular Technology Society. The prize is awarded to the top 3% reviewers who have performed reviews considered by the associate editors as being relevant and timely reviews, consistently for a number of papers over the year. (2015)

Scholarship from the Royal Academy of Engineering (UK) to be a Visiting Scholar at the University of Toronto, Canada (2008)

Research Scholarship from the Calouste Gulbenkian Foundation to be a Visiting Scholar at the University of Toronto, Canada (4 months) (2007)

Best Paper Award (Conference Prize) at the European Conference on Wireless Technology 2007, Prize given by the European Microwave Association during the European Microwave Week 2007, Munich, Germany (2007)

Selected as a College Senior Scholar “on the basis of first class work” by the Tutorial Committee of Fitzwilliam College, Cambridge, UK (2007)

Best Student Paper Award (Young Engineer Prize) at the European Conference on Wireless Technology 2004, Prize from the European Microwave Association, during the European Microwave Week , Amsterdam, Netherlands (2004)

3rd place on the "Innovation Young Engineer Prize 2002", from Ordem dos Engenheiros (Portuguese engineers institution) and also sponsored by the Luso-American Foundation for Development (FLAD), by the Portuguese Foundation for Science and Technology and by and by the Ministry for Science and Higher Education (2002)

Professional Associations

Cambridge Philosophical Society (Life Fellow) (Since 2016)

IEEE Broadcast Society (2011 - 2017)

IEEE Vehicular Technology Society (Since 2011)

IEEE Communications Society (Since 2008)

IEEE Signal Processing Society (Since 2008)

IEEE Information Theory Society (Since 2008)

Isaac Newton Institute for Mathematical Sciences (Since 2007)

Institute of Electrical and Electronics Engineers (IEEE) (Since 2007)

Cambridge Philosophical Society (Fellow) (2006 - 2023)

Trinity Mathematical Society (Life Member) (Since 2006)

Cambridge University Scientific Society (Life Member) (Since 2005)

Portuguese Engineers Institution (2001 - 2011)

Organization/Coordination of Events

Type of Organization/Coordination	Event Title	Organizer	Year
Member of scientific event's organizing committee	Liasion Co-Chair of SBrT 2020 - The 38th Simpósio Brasileiro de Telecomunicações e Processamento de Sinais, Nov. 2020, Florianópolis, Brazil.		2020

Member of scientific event's organizing committee	General Co-Chair of ISWCS 2019 - The 16th International Symposium on Wireless Communication Systems, 27-30 August 2019, Oulu, Finland.		2019
Member of scientific event's organizing committee	Co-organiser of the Workshop of the Quantum Internet Alliance Consortium, 13-14 May, Lisbon, Portugal (93 participants from around Europe)		2019
Coordination of scientific event (with scientific committee) at ISCTE-IUL	General Chair of ISWCS 2018 - The 15th International Symposium on Wireless Communication Systems, Lisbon, 28-31 August 2018, Lisbon, Portugal.		2018
Member of scientific event's organizing committee	Tutorial Chair of the International Conference on Telecommunications (ICT), Lisbon, May 2014.		2014

Diffusion Activities

Activity Type	Event Title	Activity Description	Year
Talk/Conference in public diffusion event	ISCTE-IUL Academy 2017	Outreach session for high school students: talk and lab demo on telecommunications	2017
Coordination of knowledge diffusion event	MATLAB Portugal Tour 2017 - Lisbon	Organiser of an half-day workshop by MATLAB for the academics and students of the Lisbon region	2017
Talk/Conference in public diffusion event	Science and Technology Meetings, Clube ISCTE-IUL. Talk :"Space-Time Wireless Communications: Modern Signal Processing With MIMO"	Popular science talk	2012

Scientific Editing/Reviewing Activities

Type of Activity	Journal Title	ISSN/Quartile	Period	Language
Scientific journal editor	EURASIP Journal on Journal on Advances in Signal Processing	1687-6180 / Q2	2015	English