Vasco Velez

Professor Auxiliar
Department of Digital Technologies (ETDA)

Contacts

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Curriculum

Vasco Rafael Jerónimo Velez holds a Bachelor's and a Master's degree in Computer and Telecommunications Engineering. His Master's dissertation focused on GPS spoofing techniques applied to UAV navigation systems.In 2024, he earned his PhD in Information Science and Technology, with a thesis dedicated to the design and integration of novel transmission techniques to optimize the performance of wireless networks and communications.He is currently an Assistant Professor in the Department of Applied Digital Technologies at the School of Applied Digital Technologies, ISCTE-IUL.His main research interests include wireless communication systems and networks, signal processing, MIMO communications and radar, reconfigurable intelligent surfaces (RIS), index modulation, optimization algorithms, GNSS signals, and UAV applications.

Research Interests

- Unmanned Aerial Vehicles
- Wireless Communications
- MIMO Radar
- Spoofing
- Signal Processing

Academic Qualifications

University/Institution	Type	Degree	Period
ISCTE-Instituto Universitario de Lisboa	PhD	Ciências e Tecnologias da Informação	2024
ISCTE-Instituto Universitario de Lisboa	M.Sc.	Engenharia de Telecomunicações e Informática	2018
ISCTE-Instituto Universitario de Lisboa	Licenciate	Engenharia de Telecomunicações e Informática	2016

Teaching Activities

Teaching Year	Sem.	Course Name	Degree(s)	Coord.
2025/2026	2º	Applied Cryptography	Bachelor Degree in Digital Technologies and Information Security;	No
2025/2026	2º	Security Operations and Incident Management	Bachelor Degree in Digital Technologies and Information Security;	Yes
2025/2026	2º	Cybersecurity for Health Systems	Master Degree in Managing Digital Transformation in the Health Sector;	No
2025/2026	1º	Programming Fundamentals	Bachelor Degree in Digital Technologies and Information Security; Bachelor Degree in Digital Technologies and Artificial Intelligence;	No
2025/2026	1º	Introduction to Cybersecurity	Bachelor Degree in Software and Applications Development; Bachelor Degree in Digital Technologies and Artificial Intelligence;	No

Total Citations

Web of Science®	54
Scopus	54

Publications

- **Scientific Journals**

- Scientific journal paper

1 Pavia, J. P., Velez, V., Souto, N., Silva, M. M. Da & Correia, A. (2024). System-level assessment of massive multiple-input–multiple-output and reconfigurable intelligent surfaces in centralized radio access network and IoT scenarios in sub-6 GHz, mm-Wave, and THz bands. Applied Sciences. 14 (3)
- Times Cited Web of Science®: 9

	- Times Cited Scopus: 9
2	Velez, V., Pavia, J. P., Souto, N., Sebastião, P. & Correia, A. (2023). Performance assessment of a RIS-empowered post-5G/6G network operating at the mmWave/THz bands. IEEE Access. 11, 49625-49638 - Times Cited Web of Science®: 10 - Times Cited Scopus: 11 - Times Cited Google Scholar: 12
3	Velez, V., Pavia, J. P., Rita, C., Gonçalves, C., Souto, N., Sebastião, P....Correia, A. (2022). System-level assessment of a C-RAN based on generalized space–frequency index modulation for 5G new radio and beyond. Applied Sciences. 12 (3) - Times Cited Web of Science®: 5 - Times Cited Scopus: 5 - Times Cited Google Scholar: 9
4	Pavia, J. P., Velez, V., Souto, N., Ribeiro, M., Sebastião, P. & Correia, A. (2022). System-level assessment of low complexity hybrid precoding designs for massive MIMO downlink transmissions in beyond 5G networks. Applied Sciences. 12 (6) - Times Cited Web of Science®: 3 - Times Cited Scopus: 3 - Times Cited Google Scholar: 7
5	Pavia, J. P., Velez, V., Branco Ferreira, R., Souto, N., Ribeiro, M., Silva, J....Dinis, R. (2021). Low complexity hybrid precoding designs for multiuser mmWave/THz ultra massive MIMO Systems. Sensors. 21 (18) - Times Cited Web of Science®: 16 - Times Cited Scopus: 17 - Times Cited Google Scholar: 20
6	Velez, V., Pavia, J.P., Souto, N., Sebastião, P. & Correia, A. (2021). A generalized space-frequency index modulation scheme for downlink MIMO transmissions with improved diversity. IEEE Access. 9, 118996-119009 - Times Cited Web of Science®: 7 - Times Cited Scopus: 6 - Times Cited Google Scholar: 17
7	Pavia, J. P., Velez, V., Brogueira, B., Souto, N. & Correia, A. (2020). Precoded generalized spatial modulation for downlink MIMO transmissions in beyond 5G networks. Applied Sciences. 10 (18) - Times Cited Web of Science®: 4 - Times Cited Scopus: 3 - Times Cited Google Scholar: 5

• Other Publications

- Other publications

1	Velez, V. & Sebastião, P. (2018). Implementação de zonas de acesso proibido para UAVs usando spoofing de sinais GPS.

- Doctoral Thesis

1	Velez, V. (2024). Design and Integration of novel transmission techniques for coverage, power consumption and data improvements in wireless communication networks .

Academic Management Positions

Coordenador do 2º Ano (2025 - 2026)
Unit/Area: Bachelor Degree in Digital Technologies and Information Security

Coordenador do 2º Ano (2025 - 2026)
Unit/Area: Bachelor Degree in Digital Technologies and Information Security