

Jorge Portilla

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Employment

- 2021 – ... 📌 **Associate professor** at Universidad Politécnica de Madrid.
- 2006 – 2021 📌 **Assistant professor** at Universidad Politécnica de Madrid.

Education

- 2003 – 2010 📌 **Ph.D., Universidad Politécnica de Madrid, Spain** in Electronic Engineering. Thesis title: *Plataforma modular e interfaces genéricas de transductores para redes de sensores inalámbricas*
- 1996 – 2003 📌 **M.Sc. Physics, Universidad Complutense de Madrid, Spain** in Physical Devices and Control.

Research Publications Summary

Journal Articles

- 1 Castro, R., Mujica, G., & Portilla, J. (2022). Internet of things in sport training: application of a rowing propulsion monitoring system. *IEEE Internet of Things Journal*, 1–1. doi:10.1109/JIOT.2022.3163181
- 2 Señor, J., Portilla, J., & Mujica, G. (2022). Analysis of the NTRU post-quantum cryptographic scheme in constrained iot edge devices. *IEEE Internet of Things Journal*, 1–1. doi:10.1109/JIOT.2022.3162254
- 3 Marino, R., Wisultschew, C., Otero, A., Lanza-Gutierrez, J. M., Portilla, J., & Torre, E. d. l. (2021). A machine-learning-based distributed system for fault diagnosis with scalable detection quality in industrial iot. *IEEE Internet of Things Journal*, 8(6), 4339–4352. doi:10.1109/JIOT.2020.3026211
- 4 Mujica, G., Henche, J., & Portilla, J. (2021). Internet of things in the railway domain: edge sensing system based on solid-state lidar and fuzzy clustering for virtual coupling. *IEEE Access*, 9, 68093–68107. doi:10.1109/ACCESS.2021.3077728
- 5 Wisultschew, C., Mujica, G., Lanza-Gutierrez, J. M., & Portilla, J. (2021). 3d-lidar based object detection and tracking on the edge of iot for railway level crossing. *IEEE Access*, 9, 35718–35729. doi:10.1109/ACCESS.2021.3062220
- 6 Merino, P., Mujica, G., Señor, J., & Portilla, J. (2020, March). A modular iot hardware platform for distributed and secured extreme edge computing. *Electronics (Switzerland)*, 9(3). doi:10.3390/electronics9030538
- 7 Portilla, J., Mujica, G., Lee, J., & Riesgo, T. (2019, May). The extreme edge at the bottom of the internet of things: a review. *IEEE Sensors Journal*, 19(9), 3179–3190. doi:10.1109/JSEN.2019.2891911

- 8 Rodríguez, A., Valverde, J., Portilla, J., Otero, A., Riesgo, T., & de la Torre, E. (2018). Fpga-based high-performance embedded systems for adaptive edge computing in cyber-physical systems: the artico3 framework. *Sensors*, 18(6), 1877. doi:10.3390/s18061877
- 9 Krasteva, Y. E., Portilla, J., de la Torre, E., & Riesgo, T. (2011, September). Embedded Runtime Reconfigurable Nodes for Wireless Sensor Networks Applications. *IEEE Sensors Journal*, 11(9), 1800–1810. doi:10.1109/JSEN.2011.2104948

Books and Chapters

- 1 Mujica, G., Portilla, J., & Riesgo, T. (2017). Deployment Strategies of Wireless Sensor Networks for IoT: Challenges, Trends, and Solutions Based on Novel Tools and HW/SW Platforms. In *Components and services for iot platforms* (pp. 133–154). Cham: Springer International Publishing. doi:10.1007/978-3-319-42304-3{_}8
- 2 Portilla, J., Otero, A., Rosello, V., Valverde, J., Krasteva, Y., de la Torre, E., & Riesgo, T. (2014). Wireless Sensor Networks: From Real World to System Integration – Alternative Hardware Approaches. In *Comprehensive materials processing* (pp. 353–373). Elsevier. doi:10.1016/B978-0-08-096532-1.01313-3

 [Link to complete publication list](#)

Ongoing Projects

- 2021-2024 ■ **TALENT-HIPSTER**, High performance systems and technologies for e-health and fish farming, (plan estatal de +D+i orientada a los retos de la sociedad, PID2020-116417RB-C41).
- 2020-2024 ■ **KYKLOS 4.0**, An Advanced Circular and Agile Manufacturing Ecosystem based on rapid reconfigurable manufacturing process and individualized consumer preferences, H2020 INDUSTRIAL LEADERSHIP, Grant Agreement 872570.
- 2020-2023 ■ **InSecTT: Intelligent Secure Trustable Things**, ECSEL Joint Undertaking under grant agreement No 876038.

Research Stays

- 2008 ■ **Industrial Technology Research Institute (ITRI)**, 3 months stay, Hsinchu, Taiwan.
- 2018 ■ **National Taipei University of Technology (Taipei Tech)**, Department of Electrical Engineering (DEE2175), 3 months stay, Taipei, Taiwan.

Miscellaneous Experience

- 2014 ■ **Secretary of the Center of Industrial Electronics (Centro de Electrónica Industrial)**, since 2014 to the present.
- 2019 ■ **IEEE Senior Member**