

# Curriculum Vitae

**Marion Berbineau**

## Research Director

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**Name of company: Université Gustave Eiffel**

**Job position:**

**Research Director, Département Composant et Systèmes, Laboratoire  
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## PROFESSIONAL BACKGROUND

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She was recruited as a researcher in 1989.

She is full time Research Director (equivalent to Professor) at Université Gustave Eiffel in France (previously Ifsttar and INRETS).

She is in the Component and SYStem department. She is associated researcher at LEOST laboratory. She was director of Léost Lab from 2001 to 2013 and deputy director of COSYS department from 2013 to 2018.

She is expert in the fields of wireless communications and IoT for transport applications and autonomous vehicles. More precisely, in radio wave propagation in sub-6 GHz and millimetric waves and signal processing in transport complex environments (particularly in railway tunnels and high-speed lines), electromagnetic modeling, radio channel characterization and modeling, multiple antennas system, cognitive radio for railways and GNSS localization-based system for ITS particularly for the rail and public transport domains.

She is active as an expert for the GSM-R and FRMCS and future systems like 5G NR and beyond 5G particularly for high frequency bands and satellite aspects.

She is vice-chair of EURNEX and vice-chair of ERRAC representative of academia in the ERRAC steering committee.

She is involved in several National and European research projects in the railway domain.

She is author and co-author of several publications and patents.

She is expert at the French national council for the railway system. She was on the reserve list of the scientific council of Shift2Rail

## EDUCATION AND TRAININGS:

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Marion Berbineau received the Engineer degree from Polytech'Lille (France) and the Ph.D. degree from the Univ. of Lille, both in electrical engineering, respectively in 1986 and 1989.

## EXTRAS:

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Some recent publications in journal

- Ke Guan, Xinghai Guo, Danping He, Philipp Svoboda, Marion Berbineau, Stephen Wang, Bo Ai, Zhangdui Zhong, Markus Rupp, Key technologies for wireless network digital twin towards smart railways, High-speed Railway, Volume 2, Issue 1, 2024, Pages 1-10, ISSN 2949-8678, <https://doi.org/10.1016/j.hspr.2024.01.004>.
- M. Rahmani, F. Delavernhe, S. Mohammed Senouci and M. Berbineau, "Toward Sustainable Last-Mile Deliveries: A Comparative Study of Energy Consumption and Delivery Time for Drone-Only and Drone-Aided Public Transport Approaches in Urban Areas," in IEEE Transactions on Intelligent Transportation Systems, vol. 25, no. 11, pp. 17520-17532, Nov. 2024, doi: 10.1109/TITS.2024.3408476
- Marion Berbineau; Laurent Clavier; Ali Sabra; Sofiane Kharbech; Raul Torrego; José Soler; Alessandro Vizzarri; Juan Moreno García-Loygorri, « IP Impairment Models for Performance Evaluation of Wireless Systems in Railway Environments”, IEEE Access, Access-2023-16475, DOI:10.1109/ACCESS.2023.3292794, Jul 05 2023
- LI, Q., SIBEL, J. C., BERBINEAU, M., DAYOUB, I., BONNEVILLE, H., « Physical layer enhancement for next-generation railway communication systems”, Early access IEEE Access, 2022
- GHODHBANE, C., KASSAB, M., ANISS, H., BERBINEAU, M., "A Study of LTE-V2X Mode 4 Performances in a Multiapplication Context," in IEEE Access, vol. 10, pp. 63579-63591, 2022, doi: 10.1109/ACCESS.2022.3182508.
- MABROUKI, S., DAYOUB, I., LI, Q. and BERBINEAU, M., "Codebook Designs for Millimeter-Wave Communication Systems in Both Low- and High-Mobility: Achievements and Challenges," in IEEE Access, vol. 10, pp. 25786-25810, 2022, doi: 10.1109/ACCESS.2022.3154016.
- MOLLA, D. M., BADIS, H., GEORGE, L., BERBINEAU, M., "Software Defined Radio Platforms for Wireless Technologies," in IEEE Access, vol. 10, pp. 26203-26229, 2022, doi: 10.1109/ACCESS.2022.3154364.
- Sebastian Stickel, Moritz Schenker, Holger Dittus, Paul Unterhuber, Stefano Canesi, Vincent Riquier, Francisco Parrilla Ayuso, Marion Berbineau & Javier Goikoetxea, Technical feasibility analysis and introduction strategy of the virtually coupled train set concept, [www.nature.com/scientificreports](http://www.nature.com/scientificreports), Pages 12, 2022, <https://doi.org/10.1038/S41598-022-08215-Y>
- MAALOUL, S., ANISS, H., KASSAB, M., BERBINEAU, M., "Classification of C-ITS Services in Vehicular Environments," in IEEE Access, vol. 9, pp. 117868-117879, 2021, doi: 10.1109/ACCESS.2021.3105815.
- BERBINEAU, M. et al., "Channel Models for Performance Evaluation of Wireless Systems in Railway Environments," in IEEE Access, vol. 9, pp. 45903-45918, 2021, doi: 10.1109/ACCESS.2021.3066112.
- ZHU, N., BETAILLE, D., MARAIS, J. and BERBINEAU, M., "GNSS Integrity Monitoring Schemes for Terrestrial Applications in Harsh Signal Environments," in IEEE Intelligent Transportation Systems Magazine, vol. 12, no. 3, pp. 81-91, Fall 2020, doi: 10.1109/MITS.2020.2994076.