

CV date	2024/02/19
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## Part A. PERSONAL INFORMATION

First and Family name	David Guerra Pereda		
Social Security, Passport, ID number	13165810N	Age	47
Researcher numbers	Researcher ID		
	Orcid code	0000-0002-1863-2853	

### A.1. Current position

Name of University/Institution	University of the Basque Country (UPV/EHU)		
Department	Communications Engineering		
Address and Country	ETSI. Pl. Ingeniero Torres Quevedo, 1. 48013 Bilbao		
Phone number	+34946017349	E-mail	<a href="mailto:david.guerra@ehu.eus">david.guerra@ehu.eus</a>
Current position	Associate Professor	From	2018/12/06
UNESCO code	332500 TELECOMMUNICATION TECHNOLOGY		
Key words	Radio communications, wireless radio frequency, EM exposure		

### A.2. Education

Qualification	University	Year
Master on Telecommunications Engineering	University of the Basque Country (UPV/EHU)	2000
PhD: Information Technologies and Mobile Communications		2006

### A.3. JCR articles, h Index, thesis supervised...

2 PhD theses supervised, one of them an international co-supervised thesis.

Indexed Publications (Q1) 22  
h Index: 16

Citations (2019-2024): 218  
Reference Data Base: Google Scholar ([Link](#)).

## Part B. CV SUMMARY (max. 3500 characters, including spaces)

After completing my studies of Telecommunication Engineering in 2000 I worked as a hardware integration engineer from October 2000 to June 2002 in a consulting company in the fleet management solutions sector. At that point I left the company to start a doctorate program at the University of the Basque Country.

In January 2003 I became part of the "Signal Processing and Radiocommunications" (TSR in Spanish) research group, headed by Professor Juan Luis Ordiales, and I was awarded a research fellowship by the University. In June 2004 I started working as a full-time lecturer at the University. I had my PhD in 2006 (Cum Laude)

In 2011 I began a new research line within TSR group. It is focused on the quantification of the exposure to electromagnetic fields as a source of potential harmful effects to human health. Within this line I was the PI of the project entitled OPTI-WiFi which was funded by the Basque Government.

In addition to the mentioned projects, I have taken part as a researcher in 27 other public-funded projects as well as in 18 other contracts with a total budget higher than 2.3 M€. Most of these projects have been focused on the analysis of the performance of wireless systems and their radiofrequency physical channel.

As a result of my research work, I have co-authored 31 JCR papers, being 23 of them Q1s and 10 of them in the publication IEEE Transactions on Broadcasting, which is the reference publication of my research area. Overall, these publications have 737 cites according to Google Scholar, being 116 of them within JCR magazines.

I have also taken part in more than 42 papers accepted in prestigious international conferences, the last one, at the IEEE BMSB 2023, and 11 communications presented in the national conference of the International Union of Radio Science (URSI).

I am also co-author to two software tools registered as WI2 and SOCER which are currently been used by ITELAZPI SA, the agency for telecommunications of the Basque Government, since 2012.

I have also submitted and presented several contributions to the meetings of the International Telecommunication Union – Sector Radiocommunication, sometimes as part of the delegation of the Digital Radio Mondiale international consortium, but also as part of the delegation of Spain and, in recent times, as Focal Point of the delegation of the University of the Basque Country. I have been chairman twice and also coordinator or rapporteur groups for the work carried out with these and other contributions in order to develop 1 International Recommendation, 4 International Reports and 2 Handbooks, one related to radiowave propagation and the other related to digital terrestrial television, all of them published by ITU. I have been a reviewer of submitted papers for several publications such as IEEE Transactions on Broadcasting in 2004, 2006, 2008, 2010 and 2015; IEEE Communications Letters in 2004, 2008, 2009 and 2016; IEEE Antennas and Propagation Magazine in 2015, 2016 and 2019; and IEEE Instrumentation and Measurement and Elsevier Computer Communications in 2011 and 2020, respectively. I have also been part of the technical committee in 7 international IEEE conferences and of the organizing committee of two international and one national conference.

## Part C. RELEVANT MERITS

### C.1. Publications (including books)

- **‘Handbook on Ground Wave Propagation’**, Angulo I., Barclay L., Chernov Y., DeMinco N., Fernández I., Gil U., Guerra D., Milsom J., Peña I., de la Vega D, **International Telecommunication Union (ITU) Publications**, ISBN 978-92-61-14657-3, Switzerland, 2014.
  - **‘Handbook on Digital Terrestrial Television Broadcasting Networks and Systems Implementation’**, Dr. Abdullah Saleh ALARAIMI et al., **International Telecommunication Union (ITU) Publications**, ISBN 978-92-61-23481-2, Switzerland, 2016.
1. M Fernández, D Guerra. “Methodology for determining the threshold distance for estimating the main EM exposure contribution in WLAN,” *Engineering Science and Technology-An International Journal-JESTECH*, 25, pp. 1-9, 01/2022.
  2. M. Fernandez, H. Espinosa, D. Guerra, I. Peña, D. Thiel, A. Arrinda, "RF Energy Absorption in Human Bodies due to Wearable Antennas in the 2.4 GHz Frequency Band," *Bioelectromagnetics*, 41-1, pp. 73-79, 01/2020
  3. M. Fernandez, D. Guerra, U. Gil, I. Trigo, I. Pena, A. Arrinda, “Measurements and analysis of temporal and spatial variability of WiFi exposure levels in the 2.4 GHz frequency band,” *Elsevier Measurement*; Volume 149, January 2020.
  4. M. Fernández, D. Guerra, U. Gil, I. Peña and A. Arrinda, "Measurement Methodology for Determining the Optimal Frequency Domain Configuration to Accurately Record WiFi Exposure Levels," in *IEEE Transactions on Instrumentation and Measurement*, 2018 11 pp
  5. M Gallastegi et al., “Children's exposure assessment of radiofrequency fields: Comparison between spot and personal measurements,” *Environment international* 118, 2018, pp 60-69
  6. M. Gallastegi et al., “Characterization of exposure to non-ionizing electromagnetic fields in the Spanish INMA birth cohort: study protocol,” *BMC Public Health* 167, 04/2014, 10 pp.
  7. I Angulo, O Grande, D de la Vega, D Guerra, A Arrinda; “Method for avoiding near-field effects of wind turbines on microwave terrestrial radio links”; *Journal of Electromagnetic Waves and Applications*; Volume 30, Issue 1, 2016, 15 pp
  8. I. Angulo, O. Grande, D. Jenn, D. Guerra, and D. de la Vega; “Estimating reflectivity values from wind turbines for analyzing the potential impact on weather radar services”; *Atmospheric. Measurement Techniques*, 8, 2183-2193, 2015, 11 pp

9. Grande, O.; Canizo, J.; Angulo, I.; Jenn, D.; Danoon, L.; Guerra, D.; de la Vega, D.; "Simplified Formulae for the Estimation of Offshore Wind Turbines Clutter on Marine Radars"; Hindawi The Scientific World Journal; V. 2014; Article ID 982508; 11 pp
10. Angulo, I.; de la Vega, D.; Cascon, I.; Canizo, J.; Wu, Y.; Guerra, D.; Angueira, P.; "Impact analysis of wind farms on telecommunication services"; Elsevier Renewable and Sustainable Energy Reviews; Volumen 32; 2014; pp 84 - 99
11. Angulo, I.; Montalbán, J.; Canizo, J.; Wu, Y.; de la Vega, D.; Guerra, D.; Angueira, P.; Arrinda, A.; "Empirical Doppler Characterization of Signals Scattered by Wind Turbines in the UHF Band under Near Field Condition"; Hindawi Publishing Corporation International Journal of Antennas and Propagation; Volumen 2013; Article ID 804690; 11 pp.
12. Angulo, I.; de la Vega, D.; Grande, O.; Cau, N.; Gil, U.; Wu Y.; Guerra, D.; Angueira, P. "Empirical Evaluation of the Impact of Wind Turbines on DVB-T Reception Quality"; IEEE Transactions on Broadcasting; Volumen 58 - 1; 2012; pp: 1- 9
13. Angulo, I.; de la Vega, D.; Fernandez, C.; Guerra, D.; Wu, Y.; Angueira, P.; Ordiales, J.L.; "An Empirical Comparative Study of Prediction Methods for Estimating Multipath due to Signal Scattering from Wind Turbines on Digital TV Services"; IEEE Transactions on Broadcasting; Volumen 57; 2011; pp 195 - 203

## C.2. Research projects and grants

1. "Software for the Optimal Place Calculation for Wind Farms (SOPCAWIND)"; FP7-296164-2 (FP7-ICT-2011-SME-DCL); European Comunity (EC); PI: David de la Vega Moreno; 2012/05-/2014/04; 328497 €; Coordination of dissemination WP.
2. "Técnicas de Comunicaciones para la Seguridad Centrada en el Ser Humano dentro de Entornos Industriales (THERESA)"; PID2021-124706OB-I00; Ministerio de Ciencia e Innovación (MICINN); 2022/09-2025/08; PI: David de la Vega Moreno (UPV/EHU); 233530 €
3. "PHysical LAYer CoNtributions for IndusTRial cOMmunications (PHANTOM)"; RTI2018-099162-B-I00; Ministerio de Ciencia e Innovación (MICINN); 2019/01-2021/12; PI: Manuel María Vélez Elordi (UPV/EHU); 208362 €
4. "Tecnologías Digitales para Virtualización e Interoperabilidad de Funciones en Smart Grids (VIRTGRID)"; Elkartek KK-2022/00069; Government of the Basque Country (Spain); PI: David Guerra (UPV/EHU), Eugenio Perea (TECNALIA); 2022/03-2024/03; 93086 €
5. "Desarrollo de modelos virtuales para la mejora de la vida de componentes y bienes de equipo (VIRTUAL)"; Elkartek KK-2018/00096; Government of the Basque Country (Spain); PI: David Guerra (UPV/EHU), Félix Martínez (IKERLAN); 2018/01-2019/12; 39595.61 €
6. "Consolidated Groups Grant of the Basque Country" IT683-13 Government of the Basque Country; PI: Juan Luis Ordiales; 2013/01-2018/12; 450699 €
7. "Evaluación del Impacto de los Parques Eólicos en los Servicios de Telecomunicaciones (WIND-RAD)". TEC2012-32370. Ministerio de Economía y competitividad (MINECO); 2013/01-2015/12; PI: David de la Vega; 137000 €
8. "Infraestructura de datos y servicios para el despliegue masivo de DER en la red eléctrica"; Elkartek KK-2023/00083; Government of the Basque Country (Spain); PI: Itziar Angulo (UPV/EHU), Noelia Uribe (TECNALIA); 2023/03-2025/03; 96519.17 €
9. "Estudio de la degradación de la calidad de la televisión digital en presencia de parques eólicos (CATELDIA)". SA-2010/00063. Government of the Basque Country (Spain); PI: David de la Vega; 2010/01-2011/12; 96662 €
10. "Evaluación de Emisiones Radioeléctricas de Instalaciones WLAN/WiFi para el Control de Riesgos y la Definición de una Metodología Óptima de Despliegue (OPTIWiFi)". S-PE12UN066; Government of the Basque Country (Spain); PI: David Guerra; 2012/01-2013/12; 65115 €
11. "Enabling Next Generation Networks for Broadcast Services (ENGINES)" TSI-020400-2010-108; Ministerio de Economía y competitividad (MINECO); PI: Manuel Velez; 2010/01-2012/06; 64417 €

## C.3. Contracts

1. “Varios estudios del potencial impacto de parques eólicos en los servicios de radiocomunicaciones”; Iberdrola Renovables, Nabla Wind Power (Sweden), RAI Way (Italy), ESB International (UK), ElectraWinds K-Wind DOO (Belgium), Windvision, Eólicas de Euskadi, Itelazpi; PI: David de la Vega; 2008/01-2014/12; 180,801 €
2. “Estudio de la radiación EM en los parques eólicos”: Gamesa Eólica SA.; PI: David de la Vega; 2005/06-2006/02; 60593 €
3. “Análisis de la Calidad de Recepción de las Emisiones Ionosféricas DRM (NVIS) de RNE”; RTVE S.A.; PI: David Guerra Pereda; 2010/05-2011/03; 29139€
4. “Diseño y Simulación de Antena Dual Flexible Embebida en Pieza Plástica”; Fundación TEKNIKER; PI: David Guerra Pereda; 2021/03/20-2022/04/30; 18235€
5. “EMOTELDI. Digital Television Modulator”; ALCAD S.A.; PI: Manuel Velez; 2008/07-2009/10; 160000 €

## C.4. Patents

1. David de la Vega, Itziar Angulo, Iñigo Cascón, Pablo Angueira, David Guerra, Manuel Vélez; SW Register BI-265-12: "SOCER: Software de Cálculo de Emisiones Radioeléctricas"; 2012/04; Spain; Operated by Itelazpi S.A. since 2012/09
2. David de la Vega, Itziar Angulo, Iñigo Cascón, Pablo Angueira, David Guerra, Manuel Vélez; SW Register BI-266-12: "WI2: Software para el estudio del impacto de parques eólicos en servicios de radiocomunicaciones"; 2012/04; Spain;

## C.6. Contributions to International Consortiums

Regular contributor to Study Groups of International Telecommunication Union – Radiocommunication Sector, resulting in the following international documents:

- Recommendation ITU-R BT.1893: Assessment of impairment caused to digital television reception by a wind turbine.
- Report ITU-R SM.2452 Electromagnetic field measurements to assess human exposure.
- Report ITU-R BT.2142 The effect of the scattering of digital television signals from a wind turbine.
- Report ITU-R BS.2144 Planning parameters and coverage for Digital Radio Mondiale (DRM) broadcasting at frequencies below 30 MHz
- Report ITU-R BS.2251 Digital Radio Mondiale in the 26 MHz band (25 670-26 100 kHz)

## C.7. Institutional responsibilities and other merits

- UPV/EHU Coordinator of the Master on Mobile Network Information and Communication Technologies (TICRM), an inter-university Program; 2011/04-2012/05.
- UPV/EHU Coordinator of the PhD Program on Mobile Network Information and Communication Technologies (TICRM), an inter-university Program; 2020/04-Present.
- Coordinator of the Bachelor’s Degree on Engineering of Telecommunications Technologies, UPV/EHU; 2022/09-Present.
- External Examiner of a PhD thesis of Dublin City University and member of the evaluation board of 4 international PhD theses in Spain.
- Focal Point of the University of the Basque Country as and Academia member of the International Telecommunication Union – Radiocommunication Sector since 2013
- Chairman of two working groups within the meetings of the International Telecommunication Union – Radiocommunication Sector and member of the Delegation of Spain in those meetings. Supervisor of 2 Rapporteur Groups of the International Telecommunications Union.
- Regular contributor to quarterly newsletter “IEEE Broadcast Technology Magazine” since 2013.