Part A. PERSONAL INFORMATION

CV date	2018

First and Family name	Jose Manuel Barandiaran		
Social Security, Passport, ID number	14878216-E	Age	67
Researcher numbers	Researcher ID		
	Orcid code	0000-0002-5402-9314	

A.1. Current position

Name of University/Institution	Universidad del País Vasco (UPV/EHU)			
Department	Depto. Electricidad y Electrónica / Fac. Ciencia y Tecnología			
Address and Country	Sarriena s/n 48940 Leioa, Spain			
Phone number	946012549	E-mail	manub@we.lc.ehu.es	
Current position	Professor of Applied Physics	From	1988	
UNESCO codes	220208, 221123, 221117			
Key words	Magnetism, Magnetic Materials			

A.2. Education

Degree	University	Year
PhD Physics	U. Complutense, Madrid	1979
BSc Physics	U. Complutense, Madrid	1974

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

- Editor of 6 books
- Over 400 JRC journal articles, with more than 6,500 cites, h=42 (source Google Scholar)
- 7 patents
- 16 PhD thesis supervised and defended with honors, 2 more in course

Part B. CV SUMMARY

José Manuel Barandiaran studied Physics in the Universidad Complutense of Madrid, where he defended his PhD thesis in 1979.
He serves as Professor of Applied Physics at the University of the Basque Country (UPV/EHU), within the Department of Electricity and Electronics, since 1988. He has lectured in Electromagnetism, Magnetic Materials, Electromagnetic Compatibility, Nuclear techniques for materials characterization (neutron scattering, Mössbauer spectroscopy, ...) and Ionizing Radiation protection. He served also as responsible of several PhD and Master programs in Materials Science.
He has been scientific visitor in several Universities and research centers, as: Cambridge Univ., Univ. of Sheffield, Univ. of Bath, Technical Univ. of Denmark, Univ. of Bordeaux, Univ. of Toulouse (Paul Sabatier), Univ. of Le Mans, Univ. of Osaka, Massachusetts Institute of Technology, Boise State University, Laboratory Louis Néel, Institute Laue Langevin.
His main research interests lie in the field of Magnetism and Magnetic materials, including applications in magnetic sensors and actuators. Among the materials studied are: amorphous and nanocrystalline soft magnetic materials, Giant Magneto-Resistance and Magneto-impedance materials, Rare Earth permanent Magnets, Magnetic Shape Memory Alloys, etc. in form of bulk, powder, single crystal, thin films and melt spun ribbons. He has been pioneer user and has promoted advanced experimental techniques as Mössbauer spectroscopy, neutron and muon scattering, and X-ray absorption, as EXAFS, XANES and Magnetic Circular Dichroism.
Since its creation in 2012, he has been the Scientific Director of the Basque Center for Materials, Applications and Nanostructures included in the BERC (Basque Excelence Research Centers) program of the del Basque Government.
He takes part in several Scientific Societies, as the IEEE Magnetic Society or the Spanish Club of Magnetism, and International Scientific committees, as the SMM and EMSA Conferences, and has also chaired several International Conferences on Magnetic Materials.

Part C. RELEVANT MERITS

C.1. Publications (including books)

Books (as an editor)

- Espectroscopía de resonancia paramagnética electrónica; Eds. T Rojo; L Lezama; J M Barandiarán; Universidad del País Vasco, Bilbao,1997
- Proceedings of the Second European Magnetic Sensors and Actuators Conference: EMSA '98, University of Sheffield, UK, 1998 ; Sensors and Actuators, A 81 (2000); Ed. J M Barandiarán; Elsevier, Amsterdam 2000
- Proceedings of the 6th International Workshop on Non-Crystalline Solids; Bilbao, Spain, 2000; J. Non Cryst. Solids, 287 (2001); Ed. J M Barandiarán; North-Holland Amsterdam, 2001
- Proceedings of the 15th Soft Magnetic Materials Conference; Bilbao, Spain, 2001; J. Mag. Mag. Mat. 254-255 (2003); Ed. J M Barandiarán; North-Holland Amsterdam, 2003
- Selected papers of the 6th European Magnetic Sensors and Actuators Conference (EMSA'06), Bilbao (Spain) 2006: Sensors & Actuators A, Physical, 142 (2008), Ed. J M Barandiarán; Elsevier, Amsterdam 2008
- Ferromagnetic shape memory alloys II : selected, peer reviewed papers from the 2nd International Conference on Ferromagnetic Shape Memory Alloys (ICFSMA2009), Materials Science Forum, 635 (2010), Eds. V A Chernenko abd J M Barandiarán; Trans Tech Publ. ttp, Stafa-Zurich, 2010

Selected papers (last 5 years)

- "Antiferromagnetic coupling between martensitic twin variants observed by magnetic resonance in Ni-Mn-Sn-Co films"; V. O. Golub, V. A. Lvov, I. Aseguinolaza, O. Salyuk, D. Popadiuk, Y. Kharlan, G. N. Kakazei, J. P. Araujo, J. M. Barandiaran, and V. A. Chernenko, *Physical Review B* **95**, 024422 (2017)
- "High temperature Ni 45 Co 5 Mn 25− x Fe x Ga 20 Cu 5 ferromagnetic shape memory alloys"; A Pérez-Checa, J Feuchtwanger, D Musiienko, A Sozinov, *Scripta Materialia* **134**, 119-122 (2017)
- "The Influence of Copolymer Composition on PLGA/nHA Scaffolds' Cytotoxicity and In Vitro Degradation"; E Díaz, I Puerto, S Ribeiro, S Lanceros-Mendez, JM Barandiarán, *Nanomaterials* **7** (7), 173 (2017)
- "Polarized Neutron Study of Ni-Mn-Ga Alloys: Site-Specific Spin Density Affected by Martensitic Transformation"; P. Lázpita, J. M. Barandiarán, J. Gutiérrez, C. Mondelli, A. Sozinov, and V. A. Chernenko, *Physical Review Letters* **119**, 155701 (2017)
- "Characterization of Metglas/poly (vinylidene fluoride)/Metglas magnetoelectric laminates for AC/DC magnetic sensor applications"; S Reis, MP Silva, N Castro, V Correia, P Martins, A Lasheras, J Gutierrez, JM Barandiarán, JG Rocha, S Lanceros-Mendez, *Materials & Design* **92**, 906-910 (2016)
- "Assemblies of magnetite nanoparticles extracted from magnetotactic bacteria: A magnetic study"; A. M. Huízar-Félix, D. Muñoz, I. Orue, C. Magén, A. Ibarra, J. M. Barandiarán, A. Muela, and M. L. Fdez-Gubieda, *Applied Physics Letters* **108**, 063109 (2016)
- "Large tensile superelasticity from intermartensitic transformations in Ni49Mn28Ga23 single crystal"; V. A. Chernenko, E. Villa, D. Salazar, and J. M. Barandiaran, *Applied Physics Letters* **108**, 071903 (2016)
- "Martensitic transformation and magnetic field induced effects in Ni42Co8Mn39Sn11 metamagnetic shape memory alloy"; P. Lázpita, M. Sasmaz, E. Cesari, J.M. Barandiaran, J. Gutierrez, V.A. Chernenko, *Acta Materialia* **109**, 170-176 (2016)
- "Onset of room temperature ferromagnetism by plastic deformation in three paramagnetic pure metals". CM Cepeda-Jiménez, A Hernando, JM Barandiarán, MT Pérez-Prado, *Scripta Materialia* **118**, 41-45 (2016)
- "Self-patterning of epitaxial Ni–Mn–Ga/MgO (001) thin films", IR Aseguinolaza, V Golub, OY Salyuk, B Muntifering, WB Knowlton, P Müllner, JM Barandiarán, VA Chernenko, *Acta Materialia* **111**, 194-201 (2016)
- "High-yield fabrication of 60 nm Permalloy nanodiscs in well-defined magnetic vortex state for biomedical applications". M Goiriena-Goikoetxea, A García-Arribas, M Rouco, AV Svalov, JM Barandiaran, *Nanotechnology* **27** (17), 175302 (2016)

- "Quantification of size effects in the magnetoelectric response of metallic glass/PVDF laminates". A. Lasheras, J. Gutiérrez, and J. M. Barandiarán, *Applied Physics Letters* **108**, 222903 (2016)
- "Spectroscopic Evidence of Band Jahn-Teller Distortion upon Martensitic Phase Transition in Heusler-type Ni-Fe(Co)-Ga Ferromagnetic Shape Memory Alloy Film", K. Sumida, K. Shirai, S. Zhu, M. Taniguchi, M. Ye, S. Ueda, Y. Takeda, Y. Saitoh, I. Rodriguez, J. M. Barandiaran, V. A. Chernenko and A. Kimura, *Physical Review B* **91**, 134417 (2015)
- "Synthesis, physical and magnetic properties of BaFe12O19/P(VDF-TrFE) multifunctional composites"; J Gutiérrez, P Martins, R Gonçalves, V Sencadas, A Lasheras, S Lanceros-Méndez, J M Barandiarán, *European Polymer Journal* **69,** 224-231 (2015)
- "Hysteretic and anhysteretic tensile stress–strain behavior of Ni–Fe(Co)–Ga single crystal: Experiment and theory", Anna Kosogor, Victor A. L'vov, Volodymyr A. Chernenko Elena Villa, Jose M. Barandiaran, Takashi Fukuda, Tomoyuki Terai and Tomoyuki Kakeshita, *Acta Materialia* **66** 79–85 (2014)
- "Heteronuclear, mixed-metal Ag(I)–Mn(II) coordination polymers with bridging N-pyridinyliso- nicotinohydrazide ligands: synthesis, crystal structures, and magnetic and photoluminescence properties". R Bikas, H Hosseini-Monfared, V Vasylyeva, J Sanchiz, J Alonso, J M Barandiaran and C Janiak, *Dalton Transactions* **43** (31), 11925-35 (2014)
- "Magnetic influence on the martensitic transformation entropy in Ni-Mn-In metamagnetic alloy", J. M. Barandiarán, V. Chernenko, E. Cesari, D. Salas, P. Lázpita, J. Gutierrez and I. Orue, *Applied Physics Letters* **102** (7), 071904 (2014)
- "Magnetic influence on the martensitic transformation entropy in Ni-Mn-In metamagnetic alloy", J M Barandiaran, V. A. Chernenko, E Cesari, D. Salas, P. Lazpita, J. Gutierrez, and I. Orue, *Appl. Phys. Letters* **102** (2013) 071904
- "Magnetite Biomineralization in Magnetospirillum gryphiswaldense: Time-Resolved Magnetic and Structural Studies", M L Fdez-Gubieda, A Muela, J Alonso, A Garcıa-Prieto, L Olivi, R Fernandez-Pacheco and J M Barandiaran, *ACS Nano*, **7**(4) (2013) 3297–3305
- "Martensitic transformation and magnetic anisotropy in Ni-Mn-Ga/NaCl(001) thin films probed by ferromagnetic resonance", I. R. Aseguinolaza, V. Golub, J. M. Barandiarán, M. Ohtsuka, P. Mullner, O. Y. Salyuk, and V. A. Chernenko, *Appl. Phys. Letters* **102**(18) (2013) 182401
- "Optimization of the Magnetoelectric Response of Poly(vinylidene fluoride)/Epoxy/Vitrovac Laminates"; Silva M; Reis S; Lehmann C S; Martins P; Lanceros-Mendez S; Lasheras A; Gutierrez J; Barandiaran J M, *ACS applied materials & interfaces* **5** (2013) 10912−10919
- "Lattice instability of Ni-Mn-Ga ferromagnetic shape memory alloys probed by hard X-ray photoelectron spectroscopy"; Kimura, A.; Ye, M.; Taniguchi, M.; Ikenaga, E.; Barandiaran, J. M.; Chernenko, V. A.; *Applied Physics Letters*, **103**(7) (2013) 072403

C.2. Research projects and grants

- Desarrollo de Materiales Inteligentes, Materiales Funcionales y Materiales para Procesos Avanzados. (ACTIMAT), Basque Government, Department of Industry (IE13-380) Duration: 2013 - 2014 (24 months)
- "Nuevos materiales para la estrategia de especialización inteligente en Fabricación Avanzada" (ACTIMAT), Basque Government, Department of Economy and competiveness (KK-2015/0000094) Duration: 2015 - 2016 (24 months)
- "Nuevos materiales para la estrategia de especialización inteligente en Fabricación Avanzada" (ACTIMAT), Basque Government, Department of Economy and competiveness (KK-2016/00097) Duration: 2016 - 2017 (24 months)
- "Magneto-structural effects in magnetic shape memory materials with improved functional properties", Ministry od Economy and Competitiveness MINECO (MAT2011-28217-C02-02). Duration: 2012 - 2014 (36 months)
- "Functional properties and non-equilibrium processes in shape memory alloys and related ferroic materials" (FUNSAFE). Ministry od Economy and Competitiveness MINECO (MAT2014-56116-C4-4-R). Duration: 2015 - 2018 (48 months)
- "Novel, critical materials free, high Anisotropy phases for permanent Magnets, by design" (NOVAMAG), EU H2020, RIA (Grant Agreement No: 686056). Duration: 2016-2019 (42 months)

C.3. Contracts

- "High temperature Shape Memory Alloys". Contractor: ALSTOM; Duration: January 2015-Mars 2016

C.4. Patents

- "Sensor de fuerza o tensión mecánica"; Autores: M Vázquez, G Rivero, J M Barandiarán, A. Hernando; nº P89-03269; T.I.F.S.A.
- "Sistema de seguridad para vallas alámbricas"; Autores: M Vázquez, G Rivero, JM Barandiarán, A Hernando; nº P89-03270 T.I.F.S.A.
- "Sensor de campos magnéticos que usa como sensor un hilo amorfo ferromagnético con anisotropía helicoidal"; Autores: M Vázquez, G Rivero, JM Barandiarán, A Hernando; nº P90-01343; T.I.F.S.A.
- "Sensor de campo magnético"; Autores: M Vázquez, G Rivero, JM Barandiarán, A Hernando; nº P90-01344; T.I.F.S.A.
- "Sensor de detección de ejes móviles en vías de ferrocarril"; Autores: M Vázquez, G Rivero, JM Barandiarán, A Hernando; nº P90-01345; T.I.F.S.A.
- "Dispositivo eléctrico o electrónico de seguridad para vallas"; Autores: E Fraga, G Rivero, JM Barandiaran, M Vázquez, A Hernando; nº P93-02583; UCM
- “Dispositivo para la detección de la posición de un pistón neumático”; Autores: M Vázquez, A Hernando, JJ Freijo, C Gómez-Polo, JM Barandiaran; nº P99-00557; UCM

C.5 Institutional responsibilities, memberships of scientific societies

- Director of the Department of Physics, Faculty of Chemistry, SS (UPV/EHU) 1981-1982
- Director of the Department of Electricity and Electronics, (UPV/EHU) 1998-2004
- Responsible of the Research Unit Associated to the Instituto de Microelectrónica, CSIC, in the Group of Magnetism and Magnetic Materials, UPV/EHU (1996-2000)
- Responsible of the Research Unit Associated to the Instituto de Estructura de la Materia, CSIC, in the Group of Magnetism and Magnetic Materials, UPV/EHU (2001-2008)
- Scientific Director of BCMaterials since June 2012
- Responsible of the Doctorate Program: Materials Science and Engineering (UPV/EHU) 1992-1999
- Academic Responsible for the UPV/EHU: Master in Smart Materials (with al Prof. Luis León) 2005-2009
- Proponent and member of the Academic Committee of the Master in New Materials (UPV/EHU- Univ. Cantabria) 2009-10
- Academic Responsible for the interuniversity Master in New Materials, 2011-2015
- Funder and first President of the "Club Español de Magnetismo", 2002-2006
- Chair of the Spanish Chapter of the IEEE Magnetic Society 2009-2011
- Member of the sub-committee 5b (Magnetic Structures) at the ILL, 2000-2003
- Funder and member of the International del Scientific Committee of the European Magnetic Sensors and Actuators (EMSA) Conference
- President of the International del Scientific Committee of Soft Magnetic Materials (SMM) Conference
- Member of the sub-committee of Magnetic Materials in "The Minerals Metals and Materials Society" (TMS)