

Part A. PERSONAL INFORMATION

CV date

November 2022

First and Family name	JOSE MARIA DE TERESA NOGUERAS		
Social Security, Passport, ID number	29101566B	Age	52
Researcher codes	Open Researcher (ORCID)	0000-0001-9566-0738	
	SCOPUS Author ID	7003635184	
	WoS Researcher ID	E-2430-2011	

A.1. Current position

Name of University/Institution	Agencia Estatal Consejo Superior de Investigaciones Científicas		
Department	Instituto de Nanociencia y Materiales de Aragón		
Address and Country	Facultad de Ciencias, Campus San Francisco, Zaragoza (Spain)		
Phone number	976762463	E-mail	deteresa@unizar.es
Current position	CSIC Research Professor	From	29/03/2010
Keywords	Nanofabrication, Nanolithography, Nanodevices, Nanosuperconductivity, Nanomagnetism, Spintronics		

A.2. Education

PhD, Licensed, Graduate	University	Year
Licensed in Physics	Universidad de Zaragoza	1993
PhD in Physical Sciences	Universidad de Zaragoza	1997

A.3. General indicators of quality of scientific production

- Number of PhDs supervised: 11 finished and 4 in progress
- Total number of citations (Scopus): 10120
- Average number of cites per year in the last 5 years (Scopus): 550
- Total number of publications (Scopus): 225
- H-index: 49

Part B. CV SUMMARY

After a PhD (1997) on magnetic and transport properties in magnetic oxides, I developed two postdoctoral stays, at IFW (Dresden, Germany) and Thomson-CNRS (Orsay, France), where I learnt on thin-film techniques and lithography; in Orsay with an individual Marie Curie fellowship under the supervision of Physics Nobel prize Albert Fert. Young Investigator Awards by RSEF in 1997 and by Aragon Government in 2004. I joined CSIC with a permanent position in 2001, becoming Research Professor in 2010. Since 2005, I have been the researcher responsible for the Clean Room of University of Zaragoza, coordinating the micro- and nano-fabrication facilities and the technicians of the infrastructure. The infrastructure became singular (ICTS) in 2010, being supported by the Ministry of Science in Spain and by the Aragon Government. I have participated in 65 research projects, in 35 of them as principal investigator (PI). I am currently developing as PI an FET-OPEN project (2020-2024) on superconducting nanodevices on cantilevers. I have been co-author in 220 articles (h-index in Scopus of 48) and 14 book chapters, with 80 invited talks delivered. Recently, I have edited the book *Nanofabrication: nanolithography techniques and their applications* by IOP publisher (2020) and I am an editorial board member in the journal *Nanomaterials* (impact factor of 4.3). Supervisor of 11 finished PhD thesis (4 more are in progress) and 23 finished Master thesis. Founding party of the company Graphene Nanotech (under operation in the period 2014-2019). Organizer in 2012 of the international workshop *Focused Electron beam Induced Processing*, and co-organizer of the 2020 online conference CMD2020GEFES (800 abstracts and 2000 participants). Since 2009, I have been the coordinator of the Spanish network in Nanolithography (Nanolito) and, since 2020, head of department of *Physics of Materials and Nanosystems* at the Institute of Nanoscience and Materials of Aragon. Since 1st January 2021, I chair the Condensed Matter Division at the European Physical Society. In 2021, I have been elected Fellow of the American Physical Society.



Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (selected from last 10 years, * marks corresponding author)

-A. Salvador-Porroche, L. Herrero, S. Sangiao, P. Philipp, P. Cea, J. M. De Teresa*, “High-throughput direct writing of metallic micro- and nano-structures by focused Ga⁺ beam irradiation of palladium acetate films” ACS Applied Materials and Interfaces (2022), doi: 10.1021/acsami.2c05218

-J. M. De Teresa*, book editor and co-author in 4 chapters, “Nanofabrication: nanolithography techniques and their applications” 2020, Institute of Physics (IOP), Bristol, United Kingdom. ISBN (print) 978-0-7503-2606-3; DOI: 10.1088/978-0-7503-2608-7

-R. Córdoba*, D. Mailly, R. O. Rezaev, E. I.,...J. M. De Teresa* (10/10), “Three-dimensional superconducting nanohelices grown by He⁺ focused-ion-beam direct writing” Nano Letters 19, 8597-8604 (2019)

-R. Córdoba*, A. Ibarra, D. Mailly, J. M. De Teresa*, “Vertical growth of superconducting crystalline hollow nanowires by He⁺ focused ion beam induced deposition” Nano Letters 18, 1379-1386 (2018)

-M. J. Martínez-Pérez*, J. Pablo-Navarro, B. Müller, R. Kleiner, C. Magén, D. Köelle, J. M. De Teresa, J. Sesé, “Nano-SQUID magnetometry on individual as-grown and annealed cobalt nanowires at variable temperature” Nano Letters 18, 7674-7682 (2018)

-A. I. Dago, S. Sangiao, R. Fernández-Pacheco, J. M. De Teresa*, R. García*, “Chemical and structural analysis of sub-20 nm graphene patterns generated by scanning probe lithography” Carbon 129, 281-285 (2018)

-P. Peinado, S. Sangiao, J. M. De Teresa*, “Focused Electron and Ion Beam Induced Deposition on Flexible and Transparent Polycarbonate Substrates”, ACS Nano 9, 6139-6146 (2015)

-I. Guillamón*, R. Córdoba, J. Sesé, J M De Teresa, M R Ibarra, S. Vieira, H. Suderow “Enhancement of long range correlation in a 2D vortex lattice by incommensurate 1D disorder potential”, Nature Physics 10, 851-856 (2014)

-J. M. De Teresa*, R. Córdoba, “Arrays of densely-packed isolated nanowires by Focused Beam Induced Deposition plus Ar⁺ milling”, ACS Nano 8, 3788-3795 (2014)

-J.C. Rojas Sánchez, L. Vila*, G. Desfonds, S. Gambarelli, J.P. Attané, J. M. De Teresa, C. Magén, A. Fert, “Spin to charge conversion using Rashba coupling at the interface between non-magnetic materials”, Nature Communications 4, 3944 (2013)

C.2. Research projects

Reference and title: PID2020-112914RB-I00. Nanofabricación avanzada y películas delgadas de óxidos multifuncionales para aplicaciones en espintrónica

Principal investigator: José María De Teresa

Funding agency: Agencia Española de Investigación

Start and finish dates: 01/09/2021-30/08/2024

Funding for CSIC: 363.000 € + FPI PhD student

Reference and title: H2020-FETOPEN-2018-2019-2020-01, grant 892427.

FIBsuperProbes— Focused Ion Beam fabrication of superconducting scanning Probes

Principal investigator from CSIC: José María De Teresa

Funding agency: European Commission, H2020 program

Start and finish dates: 01/10/2020-31/03/2024

Funding for CSIC: 574.000 €

Reference and title: EQC2019-005855-P. Purchase of a helium-free cryomagnet.

Principal investigator: José María De Teresa

Funding agency: Agencia Española de Investigación

Start and finish dates: 01/01/2019-30/06/2021

Funding: 277.077,90 €



Reference: MAT2018-102627-T
Title: Red Española de Nanolitografía
Principal investigator and network coordinator: José María De Teresa
Funding agency: Agencia Española de Investigación
Start and finish dates: 01/01/2020-31/12/2021
Funding: 18.000 €

Reference: E13_17R
Title: Nanomidas Group
Principal investigator: José María De Teresa
Funding agency: Gobierno de Aragón
Start and finish dates: 01/01/2017-31/12/2019
Funding for CSIC: 45.730 €

Reference: I-2014/004, FP7-PEOPLE-2013-IRSES
Title: INTERNEW— Innovative interfaces for energy-related applications
Principal investigator of CSIC: José María De Teresa
Funding agency: European Commission, FP7 program
Start and finish dates: 01/01/2014-31/12/2017
Funding for CSIC: 58.800 €

C.3. Contracts, technological or transfer merits

Title: Fabrication and characterization of epitaxial Graphene on SiC substrate
Principal investigator of CSIC-ICMA: José María De Teresa
Funding entity: Graphene Nanotech company
Start and finish dates: 01/03/2015-29/02/2019
Funding for CSIC-ICMA: 94.333 €

Title: Micro- and Nano-structuration of metallic substrates by means of physical techniques in order to modify wetting properties
Principal investigator of CSIC: José María De Teresa
Funding entity: BSH company
Start and finish dates: 01/05/2014-15/10/2016
Funding for CSIC: 60.427 €

C.4. Patents

Authors: M. Jafaar, J. M. De Teresa, A. Asenjo, J. Pablo-Navarro, P. Ares, C. Magén, J. Gómez
Title: System for an atomic force microscope
Priority country: Spain (2017) Registration number: P201731292
International PCT extension: PCT/ ES2018/070709
Ownership: CSIC, Universidad de Zaragoza, Universidad Autónoma de Madrid, ARAID
Prizes: Best invention protected by industrial property award (Spanish Patent Office)

Authors: J. M. De Teresa, R. Córdoba, S. Strohauser, T. Torres
Title: Methods for depositing elements on a substrate of interest and device
Priority country: Spain (2018) Registration number: P201830757
International PCT extension: PCT/ ES2019/070526
Ownership: CSIC, Universidad de Zaragoza

C.5 International membership and representation

*Chairman of the Condensed Matter Division Board of the European Physical Society (since 01/01/2021, previously board member since 2014)

*Member of the editorial board of the journal *Nanomaterials* (Q1, impact factor = 4.3) in the section *Nanoelectronics, nanosensors and nanodevices*, since 2019

*Member of the Steering Committee and coordinator of the *Short Term Scientific Missions* program in the COST project FIT4NANO



*Spanish representative in the committee “Focused Electron Beam Induced Processing”

C.6 Invited talks and research stays

*Selected invited talks: **2022**. First international workshop dedicated to plasma cryogenic etching processes, Orleans (France); FEBIP workshop, Krakow (Poland), CMD29 conference, Manchester (U.K.). **2021**. *Online events*: Vebleo webinar on Materials Science, Engineering and Technology; Weekly colloquiums of the Graz University of Technology; ESpinRed School on Spintronics **2020**. Midscale Research Infrastructure Workshop, Missouri (USA); **2019**. Smart Materials and Surfaces, Lisbonne (Portugal); Vortex, Antwerp (Belgium) **2018**. 44th Micro and Nano Engineering Conference, Copenhagen; 2nd European FIB Network (EUFN) workshop, Grenoble **2016**. Nano-confined Superconductors and their application, Garmisch-Partenkirchen (Alemania); Sixth Workshop on Focused Electron Beam Induced Processing, Viena (Austria); Emerging Technologies 2016, Montreal (Canadá); 2nd Annual World Congress Smart Materials, Singapur **2015**. EIPBN, San Diego (USA); IWMNN, Meersburg (Alemania); ICM2015, Barcelona **2014**. InterMag, Dresden (Alemania); Condensed Matter Physics in Paris (Francia); 14th REIMEI Workshop on Spin Currents and Related Phenomena, Grenoble (Francia). **2013**. Energy-Materials-Nanotechnology East Meeting, Beijing (China). **2012**. E-MRS Fall Meeting, Warsaw (Polonia); 76th DPG conference, Berlin (Alemania). **2011**. The American Physical Society March Meeting, Dallas (USA).

*Research stays as visiting scientist and invited seminars: NUS at Singapur (2016), INRS at Montreal (2016), TU/e at Eindhoven (2017), Cambridge University (2017), PSI at Switzerland (2017), Zeiss-Peabody at Boston (2019), IFW at Dresden (2019).

C.7 Academic activities

*Since 2012, supervisor of 7 finished PhD thesis (4 more in progress), 18 finished Master thesis (TFM), 2 degree thesis (TFG).

*Part-time associated professor in the Faculty of Sciences at Universidad de Zaragoza since 2010, teaching in *Master in Physics* and *Master in Nanomaterials*.

*Organization of several summer schools on nanofabrication, held in Jaca (University of Zaragoza) in 2011, 2012, 2013, 2016 and 2018 and in Salamanca in 2021.

C.8 Research management and evaluation

*Since 2021, scientific coordinator of the Spanish ICTS ELECMI (national facility in Spain for electron and ion microscopies, with four nodes: Zaragoza, Madrid, Barcelona and Cádiz).

*Since 2020, head of department (Physics of Materials and Nanosystems) at the Institute of Nanoscience and Materials of Aragon (CSIC-University of Zaragoza).

*Since 2010, coordinator of the Dual Beam area of the Laboratory of Advanced Microscopies at University of Zaragoza, an ICTS (singular) infrastructure in Spain for electron microscopy.

*Since 2010, evaluation in various programs and panels: Horizon Europe (Pathfinder), AEI (panel of functional materials), ANEP, Ramón y Cajal and Juan de la Cierva (MINECO), ERC-IDEAS (Starting Grant and Consolidator Grant, remote referee), Polish Science Foundation, Comunidad de Madrid, Basque country fellowships (10 times), Burdinola prize, DOE in USA, Nanofabrication facilities in Berkeley (USA), German Research Foundation (DFG), European Science Foundation, Austrian Science Foundation, Christian Doppler Association (Austria).

C.9 Organization of conferences and workshops

*Organizer of the international workshop “Focused Electron beam Induced Processing”, held in Zaragoza in 2012.

*Organizer of the sixth Spanish workshop in Nanolithography, held in Zaragoza in 2014.

*Co-organizer of the 2020 online conference CMD2020GEFES (800 abstracts and 2000 participants), jointly organized by the EPS-CMD and RSEF-CMD sections.

*Co-organizer of the EPS Forum (500 participants) in Paris, June 2022.