

# NEUS DOMINGO MARIMON

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## Education

2016 “From Science to Business” Training Program, ESADE Business School, Barcelona  
 2005 **PhD in Physics**, University of Barcelona (UB), Spain. Supervisor: Prof. Javier Tejada  
 2002 **Master in Physics**, University of Barcelona (UB), Spain.  
 2000 **BSc in Physics**, University de Barcelona (UB), Spain.

## Current Professional Position (since 2019)

Institution: Oak Ridge National Laboratory (UT-Battelle)  
 Position: Senior R&D Staff **Group Leader** for the Functional Atomic Force Microscopy Group (F-AFM), Center for Nanophase Materials Sciences, USA

## Previous Positions

2019- 2022 **Distinguished Researcher (CSIC)**, ICN2, Bellaterra Spain  
 2019- 2022 **Assistant Professor**, Condensed Matter Physics Department, University of Barcelona, Spain.  
 2011- 2019 **Senior Researcher**, ICN2, Bellaterra, Spain  
 2008-10 **Postdoctoral Researcher**, Nanoscience and Nanotechnology Research Centre, CIN2 (CSIC), Barcelona, Spain  
 2005-07 **Postdoctoral Researcher**, Istituto di Struttura della Materia, CNR, Rome, Italy  
 2002 **Visiting Student**, Dept. of Chemistry, University of Canterbury, New Zealand  
 2001-05 **PhD Student**, Fundamental Physics Dept., University of Barcelona (UB), Spain  
 1999-2000 **Research Assistant**, Applied Physics Dept., University of Barcelona (UB), Spain  
 1999 **Visiting Student**, Fachhochschule Münster, Germany  
 1998 **Visiting Student**, Imperial College, London, UK

## CV Summary

I see myself poised at the interface between nanotechnology and materials science. I possess a strong and broad materials science background, starting from molecular magnetism and magnetic nanoparticles and later veering to piezo and ferroelectricity and electromechanical phenomena in general, with special emphasis to surface science that provides me with unique creative thinking skills. This grounding overlaid by my widespread formal training in nanotechnology and nanoscience fields, from loads of surface nanostructuring techniques to scanning probe microscopies, including surface science classical techniques such as XPS, gives me a *unique perspective to harness force microscopies for materials science research, focusing on the exploitation of surface science strengths*. My earned reputation in surface science and nanoscopies is evidenced by *numerous collaborations and invitations to speak at prestigious conferences and workshops*.

I started by professional research career in Europe, where I established the Advanced AFM Laboratory at ICN2, participating and leading different national and European research projects, and collaborated with the University of Barcelona as an Assistant Professor.

In 2022 I moved to the USA to take the leadership of the Functional AFM group of the CNMS as a senior R&D staff member, now supervising a team of 6 R&D staff, 3 postdocs and a PhD student. In this group, as part of a User Facility within the Nanoscale Science Research Centres of the DoE of USA we have more than 120 active user projects per year, with more than 8000 experimental hours of work to give service to about 200 national and international users per year. Our main mission is to advance scanning probe microscopies and spectroscopies to capture the nanoscale origins of functional properties in materials for energy and information, by leading the invention and development of unique advanced spectroscopy methods to reveal correlations between composition and functional properties at the nanoscale, enabled by extensive knowledge of and control over scanning probe dynamics. one of the singularities of our large portfolio of SPMs modes integrated in a single lab is that we can combine them in multimodal and correlative studies, so that altogether we can obtain a deep understanding of what are the mechanisms that determine the behaviour of materials and how we can control them, making our capabilities extremely unique and attractive to users.

My motivation to bring science beyond the lab, empower networking and return benefits to society have led me to become an active member of different scientific societies and committees, in which I have applied my management skills to the organization of activities, workshops and conferences for several years.

## Institutional Responsibilities and Committees

2023 – Present: Member of the Access Committee of **ELECMI**, reviewing board of the Spanish network of electron microscopy facilities.

2022 – Present: Assistant Editor of **Microstructures** Journal

2024 – present: **Technical Program Chair of the “Piezoresponse Force Microscopy and Other Microscopies” section**, IEEE – UFFC Society

2021 – 2024: **Tutorials and Education Chair for Ferroelectrics**, IEEE- UFFC Society

2019 – Present: Vocal of the **IEEE UFFC Ferroelectrics Committee**

2018 – Present: Member of “**PFM Workshop**” and “**International Symposium on Ferroic Domains**” Scientific Advisory Boards

2015- Present: Member of “**Fuerzas y Túnel**” International Workshop Scientific Advisory Board.

2013- Present: Chair of **Equal Opportunities Committee** of ICN2. Author of EO Plan I (2014 – 2019) and EO Plan II (2019 – 2022)

2008-2011: **Manager** of the Atomic Force Microscopy Scientific Service of CIN2 (CSIC)

2011– present: Member of the **Board of Directors**, Foundation ATENEU IGUALADÍ (**1.2 M€/y**)

## Commissions of Trust

2011- 2022: **Evaluation Panel**, Agencia Nacional de Evaluación y Prospective (ANEP), Spain

2019: **Evaluation Panel**, Agencia Gestió Ajuts Universitaris i de Recerca (AGAUR), Spain

2015- present: **Member of Evaluation Panel**, External Expert, EC REA (FET-OPEN Call).

2010- present: **Referee for major international journals**: NPJCompumats, Nat Commun, Scientific Reports, IEEE Electron Device Letters, Nanotechnology, Journal of Physics:Conference Series, Nanoscale, Nanoscale Research Letters.

**Membership of Scientific Societies**

2017- present: Member of the Materials Research Society.  
 2017- present: Member of the IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society  
 2014- present: Member of the Solid State Physics Group (GEFES)/ (RSEF) – APS Partner  
 2012-2013: Member of the American Physical Society (APS)

**Organization of Scientific Meetings**

2024 Sept Joint UFFC 2024 Meeting, **Tutorials Chair for Ferroelectrics**, (Taiwan)  
 2022 Jun ISAF Meeting, **Tutorials Chair**, Tours (France)  
 2020 Nov MRS Fall Meeting, **Session Co-chair**, Boston (USA).  
 2019 July Joint f2cp2 conference, **PFM Chair**, Lausanne, (SW). <https://lausanne2019.org/>  
 2018 Sept International Symposium on Ferroic Domains, **Co-chair**, BCN, Spain. <http://isfd-14.cat>  
 2016 Sept FyT2016 International Conference, **Co-chair**, Girona, Spain. <https://fyt2016.icn2.cat>  
 2012 Workshop on Applied Science for young potential researchers, **Chair**, Igualada, Spain  
 2005-06 July International Workshop on Nanomagnetism, **Organizing Committee**, Coma-ruga, Spain

**Fellowships & Awards**

2014 I3P Certificate **Award** for “Excellence in Scientific Career” MINECO, Spanish Gov.  
 2011-15 Ramon y Cajal **Fellowship** MICINN, Spanish Government (top 5% of awarded fell.)  
 2008-10 Juan de la Cierva **Fellowship**, MINCYT, Spanish Government  
 2010 Credential for Lecturer Professor, AQU, Catalan Government

**Teaching**

Since 2019 **Associate Professor** Condensed Matter Physics Department, University of Barcelona  
 Modern Physics Laboratory  
 Since 2017 **Invited Lecturer** /Barcelona Institute of Science and Technology, BIST  
 Winter School – AFM Lectures  
 2013-2018 **Invited Lecturer** Master of Advanced Nanoscience and nanotechnology UAB /  
*Local Scanning Probe Microscopies*  
 2010-2011 **Invited Lecturer** Master of Materials Science UAB/*Molecular Materials and Devices*  
 2004-2005 **Associate Professor** Fundamental Physics Department, University of Barcelona

**Supervision of Graduate Students and Postdoctoral Fellows:**

Dates	Name	Position	Current Position
2024	Steven Soini	PhD	PhD Student, FAU, USA
2023	Steven Baro	PhD	PhD Student, NCSU, USA
2017-2022	Irena Spasojevic*	PhD	PhD Student, ICN2, Spain
2017-2022	Christina Stefani*	PhD	PhD Student, ICN2, Spain
2017	Elzbietha Pach	Postdoc	Postdoc Associate, ICMAB, Spain
2014-2018	Kumara Cordero-Edwards	PhD	Postdoc Associate, UdG, Switzerland
2012-2016	Jackeline Narvaez**	PhD	Postdoc Associate, UdV, Colombia
2014-2016	James Zapata	PostDoc	Postdoc Associate, Toulouse
2014-2015	Irene González	Master UAB	PhD Student, UAB, Spain
2014-2015	Helena Lozano	Master UAB	PhD Student, IBEC, Spain
2013-2014	Laura López-Mir	Master UAB	PhD Student, ICMAB, Spain
2009-2010	Franco Rigato	PostDoc	Resercher at INDO
2007-2008	Víctor de la Peña O’Shea	Master UB	Senior Researcher, IMDEA Energy

\* External PhD fellowships from BIST and Spanish Government awarded after incorporating into my group.

\*\* *Best PhD Thesis Award* by UAB 2016, *Best Thesis Prize in Solid State Physics*, GEFES - RSEF 2016

**Research projects and grants**

1. **H2NEW Project**, PTL Catalyst interfaces, PI: Dave Cullen, 10/2022 – present, 150 k\$
2. **LDRD Project, ORNL LOISID 11050**, Understanding mechanisms for electrothermal and electromechanical enhanced nanocatalysis at surfaces' PI: Neus Domingo 02/2022 – 10/2022, 147 k\$
3. **Program development for Strategic Hiring**, 49 k\$
4. **EU Project 964931**, Topological Solitons in Antiferroics, TSAR, FET-Open Program ERC, PI: Michel Viret (CNRS), 01/05/2021 - 30/04/2025, 2 M€
5. **PID2019-109931GB-I00**, Physical Chemistry of Ferroelectric Surfaces, SURFER, Ministerio de Economía, Industria y Competitividad. *PI: Neus Domingo*. 01/06/2020-31/05/2023. 121.000 €.
6. **Experiment ID 2019093966**, Pyrocatalysis on Ferroelectric thin films and single crystals", *PI: Neus Domingo* (ALBA Synchrotron). 15/07/2020-19/07/2020
7. **2017 SGR 579**, Oxide Nanophysics, Generalitat de Catalunya. Grup de Recerca Consolidat. Gustau PI: Catalan Bernabé. (ICN2). 01/07/2014-30/06/2016. 24.000 €. Team member
8. **FIS2015-73932-JIN**, Advanced Surface Electromechanics ADVISE Ministerio de Economía, Industria y Competitividad. *PI: Neus Domingo* (ICN2). 01/12/2016-30/11/2019. 168.500 €.
9. **Experiment ID 2017092407**, Water modulation of electronic devices based on 2DEL at the interface of LaAlO<sub>3</sub>/SrTiO<sub>3</sub> structures ALBA Users Program. *PI: Neus Domingo* (ALBA Synchrotron). 03/02/2018-07/02/2018.
10. **Experiment ID 2017032176**, Study of water monolayers at the interface of graphene and ferroelectric materials as a function of polarization and its role in resistive switching and polarization dynamics ALBA Users Program. *PI: Neus Domingo* (ALBA Synchrotron). 20/09/2017-23/09/2017.
11. **Experiment ID 2016091954**, Study of adsorbates effect on 2DEL at the interface of LaAlO<sub>3</sub>/SrTiO<sub>3</sub> structures ALBA Users Program. *PI: Neus Domingo* (ALBA Synchrotron). 19/04/2017-21/04/2017.
12. **2014 SGR 1216**, Oxide Nanoelectronics Generalitat de Catalunya. Grup de Recerca Emergent. PI: Gustau Catalan. (ICN2). 01/07/2014-30/06/2016. 24.000 €. Team member.
13. **Experiment ID 2015091468**, Studying the universality of the relationship between polarization and water adsorption on ferroelectric materials by Near Ambient Pressure XPS ALBA Users Program. PI: Albert Verdaguer (ALBA Synchrotron). 03/02/2016- 06/02/2016.
14. **FIS2013-48668-C2-1-P**, Stresstronics (Estresstrónica de Óxidos) Ministerio de Ciencia e Innovación. PI: Gustau Catalan (ICN2). 01/01/2013-31/12/2015. 112.000 €. Co-ordinator.
15. **MAT2010-17771**, Domain Wall Nanoelectronics Ministerio de Ciencia e Innovación. Programa Nacional de I+D de Materiales. *PI: Neus Domingo* (CSIC). 01/01/2011-31/12/2012. 70.000 €.
16. **RYC2010-06365**, Magnetism of Nanostructures on Surfaces, from isolated nanoparticles to magnetic domain walls Ministerio de Ciencia e Innovación. Programa Nacional de Contratación e Incorporación de Recursos Humanos, Subprograma Ramón y Cajal. *PI: Neus Domingo* (CSIC). 01/01/2011- 31/12/2012. 12.000 €. Principal investigator.
17. **MAT2008-04749-E/MAT** Ac Magnetic Susceptibility Force Microscopy, Ministerio de Ciencia e Innovación. / Explora. *PI: Neus Domingo*. 01/01/2009 – 30/06/2010. 60.000 €.

Total funding raised 'till 2019: ~ 600 k€

**Invited presentation to conferences and seminars**

Total conferences and workshops with oral presentations > 60

- 2024 **Invited Speaker** – ECAPD – European Conference of Applications of Polar Dielectrics, Trondheim (Norway) June 2024
- 2023 **Invited Speaker** – IMC20 – 20<sup>th</sup> International Microscopy Conference, Busan (Korea), Sept 2023 – transferred to Early Career R&D Staff.
- 2023 **Invited Speaker** – CNMS Users Meeting, Knoxville (USA), August 2023
- 2023 **Invited Tutorial** – Joint ISAF-PFM Conference, Cleveland (USA), July 2023
- 2023 **Invited Speaker** – International Workshop on Ferroelectrics, Trondheim (Norway), April 2023
- 2023 **Invited Speaker** – International Meeting on Ferroelectricity, Tel-Aviv (Israel), March 2023
- 2023 **Invited Speaker** – EMA 2023 (American Ceramics Society), Orlando (USA), January 2023
- 2022 **Invited Speaker Tutorial** – IEEE Ferroschool, Calgary (Canada), December 2022
- 2022 **Invited Speaker** – MRS Fall meeting, Boston (USA), December 2022
- 2022 **Invited Speaker**- Topo 2022, Mainz, (Germany), September 2022
- 2022 **Invited Speaker** – ISAF 2022, Tours, (France), June 2022
- 2021 **Invited Speaker** – APXPS International Meeting (virtual), South Korea, December 2021

- 2021 **Invited Speaker, iSPM3 Conference**, Beckenridge (USA), "Quantification of electromechanical responses", June 2021
- 2021 **Invited Speaker, ISAF-ISIF-PFM Joint Conference**, Sydney (Australia) VIRTUAL, "Impact of strain gradients and domain walls on the effective mechanical properties of ferroelectrics" May 2021
- 2021 **Invited Speaker, APS March Meeting**, VIRTUAL, "Direct and converse flexoelectricity: the effect of strain and electric field gradients on nanoscale electromechanical responses" March 2021
- 2021 **Invited Speaker, Catalysis**, San Francisco USA, VIRTUAL, "Pyrocatalysis and Ferrocatalysis" February 2021
- 2021 **Invited Speaker, Fundamental Physics of Ferroelectrics and related materials 2021**, VIRTUAL, "Physical Chemistry of Ferroelectric Surfaces" February 2021
- 2020 **Invited Speaker, AP-XPS International Workshop**, Pohang, South Korea, VIRTUAL, "Water Splitting Reactions on Oxide Perovskites by AP-XPS" December 2020
- 2020 **Invited Speaker, QUOROM-II 2020**, VIRTUAL, "Physical Chemistry of Ferroelectric Surfaces" November 2020
- 2020 **Oral Communication, VIII Multifrequency AFM Conference**, Madrid, Spain VIRTUAL, "Band Excitation PFM and CRF: probing asymmetrical mechanical properties of ferroelectric materials" October 2020
- 2020 **Invited Speaker, NSFE – Park Instruments**, Dublin, Ireland, VIRTUAL, "Quantification of nanoscale electromechanical responses" September 2020
- 2020 **Invited Speaker, FerroTalks**, IEEE UFFC Tutorial series, VIRTUAL, "The adsorbates on Ferroelectric Surfaces: those long-ignored neighbours" September 2020
- 2020 **Invited Speaker, ISAF IFCS PFM 2020**, Keystone, CO, USA VIRTUAL, "Quantification of nanoscale electromechanical responses: Converse Flexoelectricity and the effect of Schottky Barriers" July 2020
- 2020 **Invited Speaker, Applications of AFM in Virology Research – Oxford Instruments Asylum Research**, VIRTUAL, "Imaging Viruses Capsids by Multifrequency Atomic Force Microscopy" May 27<sup>th</sup>
- 2020 **Invited Speaker, EFEN Symposium on Catalysis**, VIRTUAL, "Ferrocatalysis: water splitting reactions on ferroelectric oxide surfaces" May 19<sup>th</sup>
- 2019 **Invited Speaker, Asia-Pacific PFM2019**, Seoul, Korea "Electric field effects on ferroelectric surfaces: from converse flexoelectricity to electrochemistry"
- 2018 **Invited Speaker, Joint IFAAP Conference 2018**, Hiroshima, Japan "Gradient-based Electro-mechanical Surface Properties by Force Microscopy: Mechanical Read and Write of Ferroelectricity and Converse Flexoelectricity"
- 2017 **Invited Speaker, International Conference on Chemistry and Materials Science**, Rome, Italy "Ferroelectrics as Smart Mechanical Materials: electro-mechanical Surface Properties by Force Microscopy"
- 2017 **Invited Tutorial, PFM International Workshop**, Atlanta, USA "Advanced Surface Electromechanical Force Microscopy"
- 2017 **Oral Communication, Joint ISAF/PFM Conference**, Atlanta, USA "Converse Flexoelectric Effects in PFM"
- 2016 **Invited Seminar, EuroForum AFM**, Geneva, Switzerland "Surface Nanoelectromechanics: imaging and spectroscopy of piezoelectric, piezoresistive and FE properties at the nanoscale"
- 2016 **Oral Communication, Joint ISAF/ECAPD/PFM Conference 2016**, Darmstadt, Germany "Water assisted surface charge screening on LiNbO<sub>3</sub> by Ambient Pressure X-ray Photoelectron Spectroscopy (APXPS)"
- 2016 **Invited Speaker, GEFES Conference**, Cuenca, Spain "Surface Nanoelectromechanics: imaging and spectroscopy of piezoelectric and, piezoresistive properties at the nanoscale"
- 2015 **Invited Seminar, AFM Workshop**, ICMAB, Barcelona, Spain "Electromechanical Response; from violins to electrical drums"
- 2014 **Invited Seminar, Max, Plank Institut Stuttgart**, Germany "Pressure induced effects at the nanoscale (or what happens when you put an elephant on stilettos)"
- 2013 **Invited Tutorial, BCNano'13** Barcelona, Spain "Electromechanical response characterization at the nanoscale: from violins to electrical brass drums"

**General quality indicators of scientific production****Indicators of scientific productivity**Total publications ~ **80** (Q1 = 95%, D1 = 100%)Times Cited = **3047** (Average 2020-2023 = **270 citations/year**)**H-index = 31**      **i10-index = 63**

- **21** articles in leading impact factor journals (impact factor >5):  
**Nature Materials** (1), **Nature Commun** (1), **Chemical Society Reviews** (1), **J.Phys.Chem C** (2) **JACS** (1), **Andgewandte Chemie** (1),  
**Advanced Materials** (3), **Small** (3), **Nanoletters** (1) **Chemical Communications** (2), **Nanoscale** (2), **Biosensors and Bioelectronics** (2).
- **3 Book Chapters**

**Book chapters:**

1. **N.Domingo**, G. Catalan, *Domain Walls: from fundamental properties to Nanotechnology concepts* (Ed. Ramesh, Gregg, Seidel & Meier) (2019), Oxford 2019
2. M.L. Baker, S.J. Blundell, **N. Domingo**, S. Hill *Molecular Nanomagnets*, 231-291 (2014)
3. P.Gerbier, D. Ruiz-Molina, **N.Domingo**, D.B. Amabilino, J. Vidal-Gancedo, J. Tejada, J. Veciana *Molecular Magnets: Recent Highlights*, ISBN 9783211836914 (2003)

**Selected and recent papers (2014 – 2024)**

\*Authors underlined were under my direct supervision (PhDs, Postdocs)

1. **N. Domingo** "Understanding Piezocatalysis, Pyrocatalysis and Ferrocatalysis" *Frontiers in Nanotechnology* 6, 1320503 (2024)
2. **N Domingo** "Bowling Bowling to ferroelectric artificial flux closure" *N&V Nature Materials*, (accepted for publication 2023)
3. M Checa, K Kelley, C Sun, R Vasudevan, M Ziatdinov, I Ivanov, SJ Yun, K Xiao, A Sehirlioglu, Y.Kim, P. Sharma, **N.Domingo**, S.Jesse, L.Collins, "High speed mapping of surface charge dynamics via Spiral Scanning Kelvin Probe Force Microscopy" *Nature Communications* (accepted for publication 2023)
4. I Spasojevic, J Santiso, JM Caicedo, G Catalan, **N Domingo**, "Tunable Molecular Electrodes for Bistable Polarization Screening" *Small* 2207799 (2023)
5. XK Wei, **N Domingo**, Y Sun, N Balke, RE Dunin-Borkowski, J Mayer, "Progress on emerging ferroelectric materials for energy harvesting, storage and conversion" *Advanced Energy Materials* 12 (24), 2201199 (2022)
6. I Spasojevic, A Verdaguer, G Catalan, **N Domingo**, "Effect of Humidity on the Writing Speed and Domain Wall Dynamics of Ferroelectric Domains" *Advanced Electronic Materials* 8 (6) 2270024 (2022)
7. J de Rojas, A Quintana, G Rius, C Stefani, N Domingo, JL Costa-Krämer, E Menendez, J Sort, "Voltage control of magnetism with magneto-ionic approaches: Beyond voltage-driven oxygen ion migration" *Applied Physics Letters*, 120 (7) 070501 (2022)
8. I Gaponenko, L Musy, **N Domingo**, N Stucki, A Verdaguer, N. Bassiri-Gharb, P.Paruch, "Local and correlated studies of humidity-mediated ferroelectric thin film surface charge dynamics" *NPJ Computational Materials* 7, 163 (2021)
9. H Lozano, G Catalán, J Esteve, **N Domingo**, G Murillo, "Non-linear nanoscale piezoresponse of single ZnO nanowires affected by piezotronic effect", *Nanotechnology* 32, 025202 (2020)
10. Ch.Stefani, L.Ponet, K. Shapovalov, P.Chen, E.Langenberg, D.G Schlom, S.Artyukhin, M.Stengel, **N.Domingo**, G. Catalan, "Mechanical Softness of Ferroelectric 180° Domain Walls" *Physical Review X*, 10, 041001, (2020)
11. L. Rodríguez, E.del Corro, M.Conroy, K. Moore, F. Sandiumenge, **N. Domingo**, J. Santiso, G. Catalan, "Self-Pixelation Through Fracture in VO2 Thin Films" *ACS Applied Electronic Materials*, 2, 1433-1439 (2020)

12. E. Langenberg, H.Paik, E.H Smith, H. P Nair, I.Hanke, S.Ganschow, G. Catalan, **N. Domingo**, D. G Schlom, "Strain-Engineered Ferroelastic Structures in PbTiO<sub>3</sub> Films and Their Control by Electric Field" *ACS Applied Materials & Interfaces*, 12, 20691-20703 (2020)
13. A.S. Everhardt, Th. Denneulin, A. Grünebohm, Y-T Shao, P. Ondrejovic, S. Zhou, **N. Domingo**, G.Catalan, J. Hlinka, J.M. Zuo, S.Matzen, B. Noheda, "Temperature-independent giant dielectric response in transitional BaTiO<sub>3</sub> thin films" *Applied Physics Reviews*, 7, 011402 (2020)
14. E.Langenberg, D.Saha, M.E.Holtz, J.Wang, D.Bugallo, E.Ferreiro-Vila, H.Paik, I.Hanke, S. Ganschow, D.A.Muller, L.Q. Chen, G.Catalan, **N.Domingo**, J.A.Malen, D.G.Schlom, F. Rivadulla, "Ferroelectric domain walls in PbTiO<sub>3</sub> are effective regulators of heat flow at room temperature", *Nano Letters*, 19, 7901 - 7907 (2019)
15. **N.Domingo\***, I.Gaponenko, N.Stucki, K.Cordero-Edwards, V.Pérez-Dieste, C.Escudero, E.Pach, A.Verdaguer, P.Paruch, "Surface Charge Species and Electrochemical Dynamics on Ferroelectric Thin Film Surfaces", *Nanoscale*, 11, 17920 (2019)
16. A. Abdollahi\*, **N.Domingo\***, I.Arias, G.Catalan, "Converse flexoelectricity yields large piezoresponse force microscopy signals in non-piezoelectric materials" *Nat. Commun*, 10, 1266 (2019)
17. **N.Domingo\***, E.Pach, K.Cordero-Edwards, V.Pérez-Dieste, C.Escudero, A.Verdaguer, "Water Adsorption, Dissociation and Oxidation on SrTiO<sub>3</sub> and Ferroelectric Surfaces Revealed by Ambient Pressure X-ray Photoelectron Spectroscopy", *Phys.Chem.Chem.Phys*, 21, 4920 (2019)
18. N Senes, A Iacomini, **N Domingo**, S Enzo, G Mulas, S Cuesta-Lopez, S Garroni, "Local piezoelectric behavior of potassium sodium niobate prepared by a facile synthesis via water soluble precursors" *Physica Status Solidi A*, 215, 1700921 (2018)
19. K.Cordero-Edwards, **N. Domingo**, A. Abdollahi, J. Sort, and G. Catalan, "Ferroelectrics as smart mechanical materials", *Advanced Materials* 29, 17002210 (2017)
20. **N.Domingo**, S, Farokipoor, J. Santiso, B.Noheda, G.Catalan "Domain wall magnetoresistance in BiFeO<sub>3</sub> thin films measured by scanning probe microscopy", *Journal of Physics: Condensed Matter*, 29, 334003 (2017)
21. M Siepi, E Morales-Narváez, **N Domingo**, DM Monti, E Notomista, A Merkoçi, "Production of biofunctionalized mos<sub>2</sub> flakes with rationally modified lysozyme: a biocompatible 2d hybrid material" *2D Materials*, 4, 035007 (2017)
22. E Menéndez, H Modarresi, C Petermann, J Nogués, **N Domingo**, H Liu, B J Kirby, A S Mohd, Z Salhi, E Babcock, S Mattauch, C Van Haesendonck, A Vantomme, K Temst, "Lateral magnetically modulated multilayers by combining ion implantation and lithography" *Small*, 13, 1603465 (2017)
23. K.Cordero-Edwards, L.Rodríguez, A.Calò, M.J.Esplandiu, V.Pérez-Dieste, C. Escudero, **N.Domingo\***, A.Verdaguer "Water Affinity and Surface Charging at the z-Cut and y-Cut LiNbO<sub>3</sub> Surfaces: An Ambient Pressure X-ray Photoelectron Spectroscopy Study" *J. Phys Chem C* 120, 24048–2405 (2016)
24. I González-Domínguez, S Gutiérrez-Granados, L Cervera, F Gòdia, **N. Domingo,\*** "Identification of HIV-1–based virus-like particles by multifrequency atomic force microscopy" *Biophysical Journal*, 111, 1173-1179 (2016)
25. M Scigaj, N Dix, J Gázquez, M Varela, I Fina, **N Domingo**, G Herranz, V Skumryev, J Fontcuberta, F Sánchez,"Monolithic integration of room-temperature multifunctional BaTiO<sub>3</sub>-CoFe<sub>2</sub>O<sub>4</sub> epitaxial heterostructures on Si(001)" *Scientific Reports*, 6, 31870 (2016)

26. I Golvano-Escobal, JC Gonzalez-Rosillo, **N Domingo**, X Illa, J F López-Barberá, J Fornell, P Solsona, L Aballe, M Foerster, S Suriñach, M D Baró, T Puig, S Pané, J Nogués, E Pellicer, J Sort, “Spontaneous formation of spiral-like patterns with distinct periodic physical properties by confined electrodeposition of Co-In disks”, *Scientific Reports*, 6, 30398 (2016)
27. N Stitz, S Eiben, P Atanasova, **N Domingo**, A Leineweber, Z Burghard, J Bill, “Piezoelectric templates—new views on biomineralization and biomimetics” *Scientific Reports*, 6, 1-7 (2016)
28. GB C. Couso, V. Iglesias, M. Porti, S. Claramunt, M. Nafria, **N. Domingo**, A Cordes, “Conductance of Threading Dislocations in InGaAs/Si Stacks by Temperature-CAFM Measurements” *IEEE Electron Device Letters*, 37, 640 (2016)
29. AS Everhardt, S Matzen, **N Domingo**, G Catalan, B Noheda “Ferroelectric Domain Structures in Low-Strain BaTiO<sub>3</sub>” *Advanced Electronic Materials* 2, 1500214 (2016)
30. L Balcells, M Paradinas, N Bagues, **N Domingo**, R Moreno, R Galceran, M Walls, J Santiso, Z Konstantinovic, A Pomar, M-J Casanove, C Ocal, B Martínez, F Sandiumenge, Enhanced conduction and ferromagnetic order at (100)-type twin walls in La<sub>0.7</sub>Sr<sub>0.3</sub>MnO<sub>3</sub> thin films, *Phys Rev B* 92, 075111 (2015)
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