CV-AITOR MUGARZA

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CONTENTS

CV SUMMARY

Prof. Aitor Mugarza received his PhD in 2002 from the University of the Basque Country, and spent 3 years at Lawrence Berkeley National Laboratory before becoming founding member of the Atomic Manipulation and Spectroscopy (AMS) group at the Catalan Institute of Nanoscience and Nanotechnology (ICN2) in 2007. During this period he was awarded several fellowships, including EU Marie Curie and a Ramon y Cajal. In 2013 he was appointed tenure track Group Leader of the AMS group, and later in 2015 ICREA Research Professor and Group Leader.

Prof. Mugarza has published 81 publications, which gather more than 3400/4600 citations (WoS/GSc). He has over 70 invited talks at international conferences, universities and schools. Two of his publications are rated as top 1% in the field (from ESI-WoS) His expertise covers, organic and inorganic synthesis and self-assembly of low dimensional materials, molecular electronics and spintronics, and atomic-scale engineering of quantum properties. In this fields, he has carried out seminal studies realizing tunable superlattices of 1D quantum resonators, manipulating spin and charge of single molecules by electron doping, or unveiling spin dependent electron scattering on graphene nanostructures and other 2D materials. More recently, his research has been focused on the synthesis of atomically precise graphene nanostructures. The results he led on the synthesis of nanoporous graphene has been highlighted in scientific (Science Perspectives, Nature Electronics, Chemical Engineering & News, IEEE Spectrum, Nano Today) and press media (Europe1 (France), La Libre (Belgium), TVA Nouvelles (Canada), La Sexta, El Periódico, ELPAIS, La Vanguardia, Catalunya Radio). The results has also been awarded as molecule of year 2018 by the journal C&EN (American Chemical Society), and within the top-three scientific result led by Spanish scientist in Premio Vanguardia de la Ciencia. For this work he received the *Distinguished Research Award* from the CSIC.

The experimental approach of Prof. Mugarza is based on the combination of scanning probe microscopy (STM/STS) and synchrotron radiation-based electron (XPS/ARPES) and X-ray (XAS/XMCD) spectroscopy. His scientific activity is strongly linked to Synchrotron Radiation Facilities where, in addition to being a heavy user (over 50 experiments in 8 different facilities), he: i) coordinates the Scanning Probe Microscopy Platform being created at ALBA at the present for the correlative SPM and synchrotron-based characterization; ii) is member of the expert users committee of the LOREA beamline at ALBA, dedicated to XPS/ARPES. In addition to these fundamental research lines, he recently started exploring the application of the tailored graphene-based nanomaterials synthesized in the group in (opto)electronic and sensing devices.

He is member of 9 reviewer panels (e.g. ERC, Molecular Foundry, or The Royal Society), and a regular reviewer of the most important journals in his field (Science, Nature Publishing Group, Nano Lett., ACS Nano, Phys. Rev. Lett….). He has contributed in the organization of 8 international conferences (e.g. ECOSS, VAS, ICM), and chaired the Innovation Applied to Innovation (I^2) Workshop. He is also member of the Scientific and Organization Committees of several associations (e.g. ASEVA, IUVSTA, ELECMI).

Regarding teaching and mentoring activities, he is lecturer at the Master in Multidisciplinary Research in Experimental Sciences (UPF-BIST), and at the Master in Advanced Nanoscience and Nanotechnology (UAB), and he is currently member of the Steering Committee of a new Master in Applied Nanoscience: From Materials to Devices (UAB). He has supervised 16 postdoctoral, 6 PhD, and 9 Master students. Notably, his first PhD student was awarded by Springer and published in their selection of "Outstanding Ph.D. Research", and by UAB as best thesis of year in Physics.

MAIN ACHIEVEMENTS IN 2019-2024

Scientific Production:

- 20 articles (average IF=11.31, 4 covers in Adv. Mater., J. Am. Chem. Soc., Nano Lett., and Small)
- 1 book chapter
- 21 invited talks
- Invitation to lead the section on "Tip-enhanced nanoscopies for atomic scale photonics in 2d materials" in the "Roadmap for Photonics with 2D Materials" (ACS Photonics, submitted in Oct 2024)

Awards:

- Premio La Vanguardia (3rd award) for best scientific work led by Spanish scientists
- Distinguished Scientist award by the Consejo Superior de Investigaciones Científicas

Funding:

- 6 Competitive Research Projects (2.9 M€, 1 as Coordinator, 5 as PI; additional 0.3 M€ with 4 projects led by group's senior researchers)
- 6 Research Fellowships (0.9 M€, 1 Ramon y Cajal Tenure track, 3 Postdoctoral MSCA, 2 PhD FPI)

Managerial activities

- Coordinator of the SPM Platform at ALBA (4 labs, 5 scanning probe microscopes)
- Member of the Steering Committee of the Master in Applied Nanoscience: From Materials to Devices
- National delegate of the Nanometer Structure Division of the International Union for Vacuum Science, Technique, and Applications – IUVSTA
- Member of the Scientific Committee of the Spanish Vacuum Association (ASEVA)
- Member of the Access Committee of the Integrated Infrastructure for Electron Microscopy of Materials (ELECMI, Mugarza responsible of all SPM infrastructures)
- Organizing Committee of the International Workshop Challenges in Chemical Sensing with Graphene Derivatives and 2D materials (SENSE)
- Organizing Committee of "Physics in 2D Nanoarchitectonics", Minicolloquium at International Conference of Condensed Matter Divisions (2020 and 2022)
- Deputy of Nanocharacterization Enabling Research Area of ICN2's Severo Ochoa Program (2023-present)
- Member of ICN2's Internationalization Committee (2021-Present)
- Member of ICN2's PhD Monitoring Committee (2024-Present)

EDUCATION

1999 - 2002	Ph.D. in Physics, University of the Basque Country: *Electronic structure of low-dimensional systems analysed by Angle-Resolved Photoemission Spectroscopy.* Advisor: Prof. J. E. Ortega.
1992 - 1997	B. S. in Physics at the University of the Basque Country.

APPOINTMENTS

2015-present	*ICREA Research Professor*, Group Leader of the Atomic Manipulation and Spectroscopy Group, Institut Català de Nanociéncia i Nanotecnologia (ICN2), Spain.
2013-2015	*Tenure Track Scientist,* Group Leader of the Atomic Manipulation and Spectroscopy Group, Institut Català de Nanociéncia i Nanotecnologia (ICN2), Spain.
2007 – 2012	*Research Scientist*, Institut Català de Nanotecnologia (ICN), Spain.
2006 – 2007	*Postdoctoral Fellow*, Institut de Ciència de Materials de Barcelona (ICMAB), Spain.
2003 – 2006	*Postdoctoral Fellow*, Materials Sciences Dept., Lawrence Berkeley National Laboratory, USA.

AWARDS

2019	*Distinguished Research Award*, CSIC
2019	*Premio Vanguardia de la Ciencia*, La Vanguardia y la Fundació Catalunya-La Pedrera
2018	*Molecule of the Year*, American Chemical Society (C&EN)
2012	*I3 grant* for outstanding scientific career of young scientists awarded by Spanish Ministry of Science and Education

FELLOWSHIPS

2011	*PI3 (Certificate for the I3 Program)*, Spanish Government.
2007-2012	*Ramon y Cajal Fellowship*, Spanish Government.
2005-2007	*Marie Curie Outgoing International Fellowship*, European Commission.
2005	*Becas de Investigación para la Formación en el campo de las Nanotecnologías*, Catalan Government.
2003-2005	*Becas de Formación de Investigadores del Gobierno Vasco*, Basque Government

RESEARCH LINES

- Electron, photon and spin phenomena in organic and inorganic nanostructures
- Bottom-up synthesis of organic and inorganic nanostructures for information processing, energy and sensing applications
- Single-molecule chemistry and manipulation
- Advanced nanoscopic characterization (SPM, ARPES/XPS, NEXAFS/XMCD...)

SCIENTIFIC PRODUCTION HIGHLIGHTS

Publication Metrics

- Number of publications = 81 papers, 1 Book Chapter (1 Science, 1 Nat. Mater., , 4 Nano Lett., 4 ACS Nano, 1 Adv. Mater., 8 Phys. Rev. Lett., 1 Nat. Commun., 3 JACS, 1 Small)
- Number of citations = 3422/4677 (WoS/ GS)
- **Average IF (last 5 years)= 11.22**
- h-index= 29/35 (WoS/GS)
- **2** articles featured in **Highly Cited Papers** (Top 1% in the field, from ESI-WoS, marked with ♣ in list below)
- 70 invited talks at international conferences, universities and schools.

10 selected papers:

♣ Top 1% in the field (from ESI-WoS); * corresponding author;

1. C. Moreno, X. Diaz de Cerio, M. Vilas-Varela, M. Tenorio, A. Sarasola, M. Brandbyge, D. Peña, A. Garcia-Lekue, and **A. Mugarza***, *"Molecular Bridge Engineering for Tuning Quantum Electronic Transport and Anisotropy in Nanoporous Graphene"*, **J. Am. Chem. Soc.** 145, 16, 8988–8995 (2023).
2. M. Tenorio, C. Moreno*, P. Febrer, J. Castro-Esteban, P. Ordejón, D. Peña*, M. Pruneda*, **A. Mugarza***, *"Atomically Sharp Lateral Superlattice Heterojunctions Built-In Nitrogen-Doped Nanoporous Graphene".* **Adv. Mater.** 34, 2110099 (2022).
3. M. Panighel*, S. Quiroga, P. Brandimarte...D. Peña*, and **A Mugarza***, *"Stabilizing Edge Fluorination in Graphene Nanoribbons",* **ACS Nano** 14, 11120-11129 (2020).
4. C. Moreno*, M. Vilas-Varela, B. Kretz…S. O. Valenzuela*, D. Peña*, **A. Mugarza*** (11/11), "*Bottom-up synthesis of multifunctional nanoporous graphene.*" ***Science*** 360, 199–203 (2018). ♣
5. C. Moreno*, M. Paradinas, M. Vilas-Varela, M. Panighel, G. Ceballos, D. Peña*, **A. Mugarza***, "*On-surface synthesis of superlattice arrays of ultra-long graphene nanoribbons.*" ***Chem. Commun.*** 54, 9402–9405 (2018).
6. Schirone, E. E. Krasovskii, G. Bihlmayer, R. Piquerel, P. Gambardella, **A. Mugarza***, "*Spin-Flip and Element-Sensitive Electron Scattering in the BiAg2 Surface Alloy*" ***Phys. Rev. Lett.*** 114, 166801 (2015).

7. A. Garcia-Lekue, T. Balashov, M. Olle, G. Ceballos, A. Arnau, P. Gambardella, D. Sanchez-Portal, **A. Mugarza***, "*Spin-Dependent Electron Scattering at Graphene Edges on Ni(111)*" ***Phys. Rev. Lett.*** 112, 066802 (2014).
8. C. Krull, R. Robles, **A. Mugarza***, P. Gambardella, "*Site- and orbital-dependent charge donation and spin manipulation in electron-doped metal phthalocyanines.*" ***Nat. Mater.*** 12, 337–43 (2013).
9. **A. Mugarza**, R. Robles, C. Krull, R. Korytár, N. Lorente, P. Gambardella*, "*Electronic and magnetic properties of molecule-metal interfaces: Transition-metal phthalocyanines adsorbed on Ag(100).*" ***Phys. Rev. B***. 85, 155437 (2012). ♣
10. **A. Mugarza**, C. Krull, R. Robles, S. Stepanow, G. Ceballos, P. Gambardella*, "*Spin coupling and relaxation inside molecule–metal contacts.*" ***Nat. Commun.*** 2, 490 (2011).

PATENTS

"A nanoporous graphene structure and method for preparation thereof", EU patent application (Application number: EP18382088.5).

FUNDING **(as PI or coordinator only)**

Project Title (Project Num.)	*Financial Entity*	*Duration*	*Amount**	*Role*
In-situ Correlative Facility for Advanced Energy Materials (In-CAEM, PRTR-C17.I1)	MCIN/GenCat	Oct 2022-Sep 2025	2.105.705 €	PI
On surface synthesis of two-dimensional molecular architectures and their integration in sensing devices (MOLSENDEV, PID2022-140845OB-C63)	AEI-MICINN, Spain	Sep 2023-Aug 2026	250.000 €	PI
A nanoporous graphene gas sensor (PORESENSE, PDC2022-133813-I00)	AEI-MICINN, Spain	Dec 2022-Nov 2024	149.500 €	PI
Gas sensing with atomic precision for environmental protection (SENSATION, TED2021-132388B-C41)	AEI-MICINN, Spain	Dec 2022-Nov 2024	230.000 €	Coord
On-surface Synthesis of Functional Molecular Systems (PORMOLSYS, PID2019-107338RB-C65)	AEI-MICINN, Spain	Jun2020-May2023	139.150 €	PI
Trans-Pyrenean Node for Scientific Instrumentation (EFA194/16 TNSI)	Interreg POCTEFA, EU	Feb2018-Jun2021	195.390 €	PI

Functional Molecular Nanostructures for Optoelectronic Devices: towards 3-teminal devices (FUNMOLDEV, MAT2016-78293-C6)	MINECO, Spain	Jan2017-Dec2019	181.500 €	PI
Near-Infrared Graphene Optoelectronic Devices with Atomically Controlled Nanostructures (NIRGRAPH)	BIST, Spain	2017	20.000 €	PI
Covalent hybrids on surfaces (SUPERHYBRID, MAT2013-46593C6-5-P)	MINECO, Spain	Jan2014-Dec2016	69.143 €	PI
Materials for Enhanced Spin-Orbit Effects in Spintronics (MESOSPIN, MAT2010-15659)	MICINN, Spain	2011-2014	366.025 €	PI
Grups de Recerca Emergents (2009 SGR 695)	AGAUR, Catalunya	2009-2013	42.640 €	PI

**For coordinated projects "Amount" corresponds to that awarded to the PI's subproject*

MANAGERIAL ACTIVITIES

Coordinator

- SPM Platform @ ALBA: user facility being constructed by the ICN2-ICMAB-ALBA consortium, hosting four different SPM labs dedicated for correlative measurements with synchrotron-based techniques. Since 2022.
- STM-XMCD project @ ALBA: STM facility at BOREAS beamline. 2013-2017

Board

- Member of Board of Experts for the development of the LOREA beamline at ALBA, dedicated to ARPES (since May 2019)
- National delegate of the Nanometer Structure Division of the International Union for Vacuum Science, Technique, and Applications – IUVSTA. Since 2023.

Steering Committee

Master in Applied Nanoscience: from Materials to Devices. Since 2024.

Infrastructure Access Committee

Integrated Infrastructure for Electron Microscopy of Materials (ELECMI). Since 2024.

Panel/Expert Reviewer

European Research Council (ERC), Molecular Foundry (LBNL, USA), The Royal Society (UK), French Research Agency (ANR),

	Austrian Science Fund (FWF), Swiss National Science Foundation (SNSF), Spanish Evaluation Agency (ANEP), Brazilian Council for Scientific and Technological Development (CNPq), Catalan Research Agency (AGAUR)
Reviewer of scientific journals	Science, Nature Materials, Nature Communications, Physical Review Letters, Physical Review B, New Journal of Physics, Journal of Physical Chemistry, Review of Scientific Instruments, Surface Science, etc.
Scientific Committee	• Asociación Española de Vacío y sus Aplicaciones (ASEVA). Since 2019. • Congreso de Fuerzas y Túnel. Since 2010.
Program Committee	International Conference on Magnetism (ICM'15), 2015, Barcelona (Spain)
Organizing Committee	• "Challenges in Chemical Sensing with Graphene Derivatives and 2D materials (SENSE)", 2024, Donostia (Spain) • "Physics in 2D Nanoarchitectonics"Minicolloquium at International Conference of Condensed Matter Divisions (2020 and 2022) • I^2 Workshop on Transfer of Technology, 2019, Barcelona (Spain) • Congreso de Fuerzas y Túnel 2016, Girona (Spain) *Chairman* • European Conference on Surface Science (ECOSS), 2015, Barcelona (Spain). • International Conference on Vibrations at Surfaces (VAS15), 2015, San Sebastian (Spain) • International Conference on Atomically Controlled Surfaces, Interfaces, and Nanostructures (ACSIN10), 2009, Granada (Spain).

ADVISEES

Postdoctoral:	Piotr Ciochon (2024-present) Marc Gonzalez Cuxart (2023-present) Sara Fiori (2023-present) Emigdio Chávez-Ángel (2022-present) Jose Ramón Durán (2020-present) Pablo Merino (2021-2022) Nicolau Molina (2018-2021) Amina Kimouche (2017-2019) M. Panighel (2015-2016)

	C. Moreno (2014-2020) M. A. Valbuena (2014-2018) J. Hieulle (2014-2015) C. Krull (2013) R. Piquerel (2012) T. Balashov (2009-2011) S. Stepanow (2007-2008)
PhD:	K. García (2021-present) E. Ribas (2022-present) M. Tenorio (2018-2022) (*Cum Laude*) M. Gonzalez (2015-2019) (*Cum Laude*) M. Gastaldo (2013-2018) (*Cum Laude*) C. Krull (2007-2012) (*Cum Laude*, awarded as best thesis in Physics Department at UAB, and published by Springer in their selection of awarded "Outstanding Ph.D. Research").
Master:	V. Nikitin (2024-2025) (EMM of Science in Nanoscience and Nanotechnology, KU Leuven) M. de la Higuera (2023-2024) (Quantum) R. Simon (2023-2024) (BIST) S. Toda (2021-2022) (BIST) S. Campos (2019-2020) (BIST) A. Fernández (2019-2020) (BIST) M. Saludes (2018-2019) A. López (2017-2018) S. Schirone (2011-2012) (La Sapienza) S. Matencio (2010-2011)
Undergraduate:	I. Matinez (2024) R. Simon (2022) (Fis/Quim) S. García (2018) M. Tenorio (2017) (Nano) J. A. Peña (2016) (Nano)
Visiting PhD students:	D. Volavka (Uni Pavol Jozef Šafárik, Slovaquia, 2023) D. Arribas (ICMM, Spain, 2022) J. M. Luque (Uni Manchester, UK, 2019) S. de Oliveira (Uni Minas Gerais, Brazil, 2015) Y. Takahashi (Uni Tokyo, Japan, 2015) M. Panighel (CNR, Italy, 2013) D. Zein (UB, Spain, 2013) G. Peschel (Frei Univ., Germany,2012) S. Schmaus (Germany, 2011).

TEACHING

Master

2017-present	Lecturer – Master in Multidisciplinary Research in Experimental Sciences (Universitat Pompeu Fabra-Barcelona Institute of Science and Technology, UPF-BIST, Spain)
2011-present	Lecturer – Master in Advanced Nanoscience and Nanotechnology (Universitat Autónoma de Barcelona, UAB, Spain).

Schools

2018	10th International School and Conference on Physics and Applications of Spin Phenomena in Solids (Linz, Austria)
2016	NFFA-Europe Summer School on Synchrotron Radiation (Universitat Autónoma de Barcelona, Spain).
2014	Tutorial courses in the Brazilian Condensed Matter Physics Meeting (Costa de Sauipe, Brazil).
2013	Summer School on Nanoscience (Center for Nanoscience in Ile de France, France).
2005	Summer School on Self-organized Nanostructures (CNRS, France).

SCIENTIFIC PRODUCTION

Publications in peer reviewed journals

1. **Aitor Mugarza**, Pablo Merino, Marc G. Cuxart, Emigdio Chávez-Angel, and Martin Svec, *Roadmap for Photonics with 2D Materials: Tip-enhanced nanoscopies for atomic scale photonics in 2D materials* subsection, **ACS Photonics** (submitted).

2. E. Chávez-Angel, M. Børstad Eriksen, A. Castro-Alvarez, J. H. Garcia, M. Botifoll Moral, O. Avalos-Ovando, J. Arbiol, **A. Mugarza**, *Applied Artificial Intelligence in Materials Science and Material Design*, **Adv. Intell. Syst.** (submitted).

3. B. Lisboa, M. Soler, R. Singh, J. Castro-Esteban, D. Peña, **A. Mugarza**, L. M. Lechuga, C. Moreno, *"Bottom-up synthesized nanoporous graphene integrated onto bimodal waveguide biosensors as biofunctionalization scaffold"*, **ACS Appl. Nano Mater.** (ASAP)

4. C. Moreno, X. Diaz de Cerio, M. Tenorio, F. Gao, M. Vilas-Varela, A. Sarasola, D. Peña, A. Garcia-Lekue, and **A. Mugarza**, *"On-surface synthesis of porous graphene nanoribbons mediated by phenyl migration"*, **Communications Chemistry** 7:219 (2024).

5. M. Blanco-Rey, R. Castrillo, K. Ali, P. Gargiani, M. Ilyn, M. Gastaldo, M. Paradinas, M. A. Valbuena, **A. Mugarza**, J. E. Ortega, F. Schiller, and L. Fernández, *"The Role of Rare-Earth Atoms in the Anisotropy and Antiferromagnetic Exchange Coupling at a Hybrid Metal–Organic Interface"*, **Small** 2402328 (2024)

6. J. E. Ortega, G. Vasseur, F. Schiller, I. Piquero-Zulaica, A. P. Weber, J. Rault, M. A. Valbuena, S. Schirone, S. Matencio, L. A. Sviatkin, D. V. Terenteva, Y. M. Koroteev, E. V. Chulkov, **A. Mugarza**, and J. Lobo-Checa, *"Atomically precise step grids for the engineering of helical states"*, **Phys. Rev. B** 109, 125427 (2024).

7. M. Tenorio, C. Moreno, M. Vilas-Varela, J. Castro-Esteban, P. Febrer, M. Pruneda, D. Peña, **A. Mugarza***,"Introducing Design Strategies to Preserve N-Heterocycles Throughout the On-Surface Synthesis of Graphene Nanostructures"*, **Small Methods** 8, 2300768 (2024).

8. E. Bartolomé, L. Ferrari, F. Sedona, A. Arauzo, J. Rubín, J. Luzón, J. Herrero-Albillos, M. Panighel, **A. Mugarza**, M. Rancan, M. Sambi, L. Armelao, J. Bartolomé, F. Bartolomé, "*Surface Deposition Induced Reduction of the Ground State Spin in Cr_{10} Wheel*", **Adv. Mater. Interfaces.** 2300146 (2023).

9. B. Muñiz Cano, Y. Ferreiros, P. A. Pantaleón, J. Dai, M. Tallarida, A. I. Figueroa, V. Marinova, K. García-Díez, **A. Mugarza**, S. O. Valenzuela, R. Miranda, J. Camarero, F. Guinea, J. A. Silva-Guillén, M. A. Valbuena, "*Experimental Demonstration of a Magnetically Induced Warping Transition in a Topological Insulator Mediated by Rare-Earth Surface Dopants*". **Nano Lett.** 23, 6249-6258 (2023).

10. C. Moreno, X. Diaz de Cerio, M. Vilas-Varela, M. Tenorio, A. Sarasola, M. Brandbyge, D. Peña, A. Garcia-Lekue, **A. Mugarza**, "*Molecular Bridge Engineering for Tuning Quantum Electronic Transport and Anisotropy in Nanoporous Graphene*", **J. Am. Chem. Soc.** 145, 8988–8995 (2023).

11. V. Bellini, S. Rusponi, J. Kolorenč, S. K. Mahatha, M. A. Valbuena, L. Persichetti, M. Pivetta, B. V. Sorokin, D. Merk, S. Reynaud, D. Sblendorio, S. Stepanow, C. Nistor, P. Gargiani, D. Betto, **A. Mugarza**, P. Gambardella, H. Brune, C. Carbone, A. Barla, "*Slow Magnetic Relaxation of Dy Adatoms with In-Plane Magnetic Anisotropy on a Two-Dimensional Electron Gas*", **ACS Nano** 16, 11182-11193 (2022).

12. M. Tenorio, C. Moreno, P. Febrer, J. Castro-Esteban, P. Ordejón, D. Peña, M. Pruneda, **A. Mugarza**, *"Atomically Sharp Lateral Superlattice Heterojunctions Built-in Nitrogen-doped Nanoporous Graphene",* **Adv. Mater.**, 2110099 (2022).

13. S. O. Parreiras, D. Moreno, B. Cirera, M. A. Valbuena, J. I. Urgel, M. Paradinas, M. Panighel, F. Ajejas, M. A. Niño, J. M. Gallego, M. Valvidares, P. Gargiani, W. Kuch, J. I. Martínez, A. Mugarza, J. Camarero, R. Miranda, P. Perna, D. Écija, "*Tuning the Magnetic Anisotropy of Lanthanides on a Metal Substrate by Metal–Organic Coordination"*, **Small** 17, 2102753, (2021).

14. A. I. Figueroa, F. Bonell, M. G. Cuxart, M. Valvidares, P. Gargiani, G. van der Laan, **A. Mugarza**, S. O. Valenzuela, "*Absence of Magnetic Proximity Effect at the Interface of Bi_2Se_3.*" **Phys. Rev. Lett.** 125, 226801 (2020).

15. E. Bartolomé, J. Bartolomé, F. Sedona, J. Lobo-Checa, D. Forrer, J. Herrero-Albillos, M. Piantek, J. Herrero-Martín, D. Betto, E. Velez-Fort, L. M. García, M. Panighel, **A. Mugarza**, M. Sambi, F. Bartolomé, "*Enhanced Magnetism through Oxygenation of FePc/Ag(110) Monolayer Phases.*" **J. Phys. Chem. C**. 124, 13993–14006 (2020).

16. L. Fernandez, M. Blanco-Rey, R. Castrillo-Bodero, M. Ilyn, K. Ali, E. Turco, M. Corso, M. Ormaza, P. Gargiani, M. A. Valbuena, **A. Mugarza**, P. Moras, P. M. Sheverdyaeva, A. K. Kundu, M. Jugovac, C. Laubschat, J. E. Ortega, F. Schiller, "*Influence of 4f filling on electronic and magnetic properties of rare earth-Au surface compounds.*" **Nanoscale**. 12, 22258–22267 (2020).

17. M. R. Ajayakumar, C. Moreno, I. Alcón, F. Illas, C. Rovira, J. Veciana, S. T. Bromley, **A. Mugarza**, M. Mas-Torrent, "*Neutral Organic Radical Formation by Chemisorption on Metal Surfaces.*" **J. Phys. Chem. Lett.** 11, 3897–3904 (2020).

18. M. G. Cuxart, M. A. Valbuena, R. Robles, C. Moreno, F. Bonell, G. Sauthier, I. Imaz, H. Xu, C. Nistor, A. Barla, P. Gargiani, M. Valvidares, D. Maspoch, P. Gambardella, S. O. Valenzuela, **A. Mugarza**, "*Molecular Approach for Engineering Interfacial Interactions in Magnetic/Topological Insulator Heterostructures.*" **ACS Nano**. 14, 6285–6294 (2020).

19. J. Li, P. Brandimarte, M. Vilas-Varela, N. Merino-Díez, C. Moreno, **A. Mugarza**, J. S. Mollejo, D. Sánchez-Portal, D. Garcia de Oteyza, M. Corso, A. Garcia-Lekue, D. Peña, J. I. Pascual, "*Band Depopulation of Graphene Nanoribbons Induced by Chemical Gating with Amino Groups.*" **ACS Nano**. 14, 1895–1901 (2020).

20. M. Panighel, S. Quiroga, P. Brandimarte, C. Moreno, A. Garcia-Lekue, M. Vilas-Varela, D. Rey, G. Sauthier, G. Ceballos, D. Peña, **A. Mugarza**, "*Stabilizing Edge Fluorination in Graphene Nanoribbons.*" **ACS Nano**. 14, 11120–11129 (2020).

21. C. Moreno, M. Panighel, M. Vilas-Varela, G. Sauthier, M. Tenorio, G. Ceballos, D. Peña, **A. Mugarza**, "*Critical Role of Phenyl Substitution and Catalytic Substrate in the Surface-Assisted Polymerization of Dibromobianthracene Derivatives.*" **Chem. Mater.** 31, 331–341 (2019).

22. J. Hieulle, X. Wang, C. Stecker, D. Y. Son, L. Qiu, R. Ohmann, L. K. Ono, **A. Mugarza**, Y. Yan, Y. Qi, "*Unraveling the Impact of Halide Mixing on Perovskite Stability.*" **J. Am. Chem. Soc.** 141, 3515–3523 (2019).

23. C. Moreno, M. Paradinas, M. Vilas-Varela, M. Panighel, G. Ceballos, D. Peña, **A. Mugarza**, "*On-surface synthesis of superlattice arrays of ultra-long graphene nanoribbons.*" **Chem. Commun.** 54, 9402–9405 (2018).

24. C. Moreno, M. Vilas-Varela, B. Kretz, A. Garcia-Lekue, M. V Costache, M. Paradinas, M. Panighel, G. Ceballos, S. O. Valenzuela, D. Peña, **A. Mugarza**, "*Bottom-up synthesis of multifunctional nanoporous graphene.*" **Science** 360, 199–203 (2018).

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Book Chapters

J. E. Ortega, A. Mugarza, F. Schiller, J. Lobo-Checa, M. Corso*,"Electronic States of Vicinal Surfaces" in Springer Handbook of Surface Science, M. Rocca, T. S. Rahman, L. Vattuone, Eds. (Springer International Publishing, Cham, 2020) pp. 351–385.*

Other publications

1. C. Moreno, A. Garcia-lekue, A. Mugarza, "*Nanoarquitecturas de grafeno con precisión atómica.*" ***Rev. Española Física***. 33, 1–6 (2019).
2. A. Mugarza, T. Herranz, M. Salmeron, "*La ciencia de superficies : aplicación al estudio de la adsorción del agua.*" ***Rev. Española Física***. 23, 17–22 (2009).
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News&Highlights

In scientific journals

1. Tuning the magnetic anisotropy of lanthanides, **Lightsources** (2021).
2. *Stitching nanostrips together to create new 2D heterogeneous materials: a novel synthesis technique*, **Nanotechnology World Association** (2022).
3. *Molecules with a spin on a topological insulator surface: a hybrid approach to magnetic topological states of matter*, **ALBA Highlights** (2020).
4. *A recipe for nanoporous graphene*, **Science** 360, 154–155 (2018).
5. *Precise pores give graphene a bandgap*, **Nature Electron.** 1, 264–264 (2018).
6. *Graphene Is Grown With the Same Bandgap as Silicon*, **IEEE Spectrum** (2018).
7. *Holey graphene translates to working transistor*, **Chem. Eng. News.** 96 (2018).
8. Desarrollan un grafeno poroso para usar en electrónica, filtros o sensores, Condensed Matter Division of the Spanish Royal Society of Physics – GEFES (2018)
9. *Coupling of single molecule magnets to ferromagnetic metals*, **ESRF Spotlight on Science**, (2012).

In social media

"*Molecular Bridge Engineering for Tuning Quantum Electronic Transport and Anisotropy in Nanoporous Graphene*", **J. Am. Chem. Soc.** 145, 8988–8995 (2023).

1. EuropaPress
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"*Bottom-up synthesis of multifunctional nanoporous graphene.*", **Science** 360, 199–203 (2018).

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Invited contributions in conferences and schools

1. *"Bottom-up strategies for low-dimensional nanoarchitectures:synthesis and applications"*, NanoBalkan2024: Satellite Workshop: Cooperation event between Spain, Albania & Japan, Tirana, Albania, October 28 – November 1 (2024). *Invited*
2. *"Atomically precise porous graphene nanoarchitectures: from synthesis to devices"*, NanoBalkan2024, Tirana, Albania, October 28 – November 1 (2024). *Keynote*
3. *"Bottom-up modular engineering of porous graphene nanoarchitectures"*, International Conference on NANOstructures and nanomaterials SElf-Assembly - NanoSEA, Marseille, France, July 16-19 (2024). *Invited*
4. *"Towards correlative SPM and synchrotron-based studies at ALBA"*, The RSEF Physics Biennial, Donostia, Spain, July 15-19 (2024). *Invited*
5. *"Bottom-up modular engineering of porous graphene nanoarchitectures"*, Graphene Conference, Madrid, Spain, June 25-28 (2024). *Invited*
6. *"Synthesis and modular engineering of porous graphene nanoarchitectures"*, Electrochemistry Society Meeting, San Francisco, USA, May 26-30 (2024). *Invited*
7. *"Bringing atomic precision to the synthesis of graphene-based lateral heterostructures"*, European Graphene Forum, Albufeira, Portugal, Oct 25-27 (2023). *Invited*
8. *"Manipulating Topological States by Proximity and Templating Strategies*", International Conference on Materials for Advanced Technologies, Singapore, June 26-30 (2023). *Invited*
9. "*Ligand and on-surface chemistry as strategies to tune charge and spin interactions at surfaces*", International Conference on Porphyrins and Phthalocyanines, Madrid, Spain, July 10-15 (2022). *Invited*
10. "*LEGO chemistry for graphene-based nanoarchitectures*", Nanotech France, Paris, France, June 15-17 (2022). *Keynote*

11. "*2D Materials at ICN2*", Trends in Nanotechnology: Satellite Workshop: Cooperation event between Spain, Albania & Japan, Tirana, Albania, October 4-8 (2021). *Keynote*
12. "*Graphene nanoarchitectonics: building beyond 1D homostructures*", Trends in Nanotechnology, Tirana, Albania, October 4-8 (2021). *Keynote*
13. "*Fabricating carbon-based nanoarchitectures with atomic precision,*"Clustering & Global Challenges, Online, April 7-9 (2021). *Invited*
14. "*2D Materials at ICN2*", Workshop on 2D Materials and Synchrotron Radiation, Online, April 12th (2021). *Invited*
15. "*Hierarchical Graphene Nanoarchitechtonics,*"MRS Spring/Fall Meeting, Online, Nov 27-Dec 4 (2020). *Invited*
16. "*Tuning charge and spin interactions at hybrid organic/metal and organic/topological insulator interfaces,*"International Symposium on Nanomaterials and Nanodevices (IWNN), Changsha, China, July 1-7 (2019). *Keynote*
17. "*Nanostructuring graphene from 0D to 2D,*"International Symposium on Nanomaterials and Nanodevices (IWNN), Beijing, China, July 1-7 (2019). *Plenary*
18. "*Tailoring structural and electronic properties of graphene nanostructures with atomic precision,*"Symposium on Two Dimensional Materials (Carbonhagen), Copenhagen, Denmark, August 21-22 (2019). *Invited*
19. "*On-surface synthesis of nanostructured graphene: from 0D to 2D,*"European Conference on Chemistry of Two-Dimensional Materials (Chem2DMat), Dresden, Germany, September 3-6 (2019). *Invited*
20. "*Tailoring structural and electronic properties of graphene nanostructures with atomic precision,*"International Winterschool on Electronic Properties of Novel Materials, Kirchberg, Austria, March 9-16 (2019). *Invited*
21. "*Nanoporous graphene for optoelectronics and molecular sieving and sensing applications,*"Graphene Industry Challenges & Opportunities (GraphIn), Madrid, Spain, February 21-22 (2019). *Invited*
22. "*Bottom-up synthesis of graphene nanostructures: from 0D dots, to 1D ribbons, to 2D porous graphene,*"7th International Conference NANOSEA NANO-Structures and Nanomaterials Self-Assembly, Carqueiranne, France, July 2-6 (2018). *Invited*
23. "*Engineering nanoporous graphene with atomic precision,*"Recent Progress in Graphene & 2D Materials Research, Guilin, China, October 22-25 (2018). *Invited*
24. "*Tuning charge and spin interactions at hybrid organic/metal and organic/topological insulator interfaces,*"10th International School and Conference on Physics and Applications of Spin Phenomena in Solids, Linz, Austria, August 5-9 (2018). *Invited*
25. "*Manipulating the charge and spin of single molecules by chemical doping,*"Operating Quantum States in Atoms and Molecules at Surfaces (QMol), Ascona, Switzerland, September 10-14 (2017). *Invited*
26. "*Spin-dependent electron scattering in 2D electron systems,*"Nanospain, San Sebastian, Spain, March 7-10 (2017). *Invited*
27. "*In-situ structural, chemical, and magnetic characterization of nanostructures by combining STM with X-rays,*"NFFA-Europe Summer School, Barcelona, Spain, July 18-

22 (2016). *Invited*

28. "*Manipulating charge and spin at the metal-organic interface,*"Energy Materials Nanotechnology Spring Meeting, Taipei, Taiwan, March 8-11 (2016). *Invited*
29. "*Manipulating molecular charge and spin: interface effects and extrinsic doping,*"International Conference on Single-Molecule Electronics, Regensburg, Germany, September 15-17 (2015). *Invited*
30. "*Manipulating the spin by doping single molecules at the metallic interface,*"Conference on Spintronics and Magnetochemistry on the Atomic and Molecular Level, Ascona, Switzerland, October 26-30 (2014). *Invited*
31. "*Graphene nanostructures on Ni(111): structural, electronic and scattering properties,*"XXXVII National Meeting on Condensed Matter, Costa de Sauípe, Brazil, May 12-16 (2014). *Invited*
32. "*Graphene nanostructures on Ni(111): structural, electronic and scattering properties,*"Nanospain, Madrid, Spain, March 11-14 (2014). *Invited*
33. "*Tuning molecular properties at metallic surfaces,*"European Conference on Surface Science, Antalaya, Turkey, August 31-September 5 (2014). *Invited*
34. "*Electronicandmagneticproperties Electronic and magnetic properties at the (sub)nanoscale,*"Summer School Nanoscience Ile de France, Paris, France, June 23-28 (2013). *Invited*
35. "*Manipulating electronic and magnetic properties of single molecules at the metallic interface,*"XXXVI National Meeting on Condensed Matter Physics, Aguas de Lindoia, Brazil, May 13-17 (2013). *Invited*
36. "*Inducing new molecular properties at the metallic interface,*"ImagineNano, Bilbao, Spain, April 23-26 (2013). *Invited*
37. "*Spin and vibrational excitations in single molecules revealed by the Kondo effect,*"14th International Conference on Vibrations at Surfaces (VAS14), Kobe, Japan, September 24-28 (2012). *Invited*
38. "*Spin and charge at the molecule-metal interface,*"Workshop on Molecular and Other Low-Dimensional Systems, Toulouse, France, June 19-20 (2012). *Invited*
39. "*Spin coupling and dynamics in molecule-metal contacts,*"Workshop on Nanomagnetism & Spintronics, Donostia, Spain, February 22-24 (2012). *Invited*
40. "*Magnetic and vibrational excitations in single molecules studied with scanning tunnelling spectroscopy,*"International Workshop on Recent Advances in Scanning Probe Microscopies, Zaragoza, Spain, April 10 (2012). *Invited*
41. "*Single-molecule chemistry and spectroscopy by scanning tunneling microscopy,*"BCNano Symposium, Barcelona, Spain, September 19-23 (2011). *Invited*
42. "*Low temperature scanning tunneling microscopy: single atom manipulation and spectroscopy,*"Nanoscience Foundries and Fine Analysis Symposium, Barcelona, Spain, March 2 (2009). *Invited*
43. "*Single-molecule chemistry of water on Ru(0001) by scanning tunnelling microscopy,*"V Reunión Nacional de Física Del Estado Sólido, Santiago de Compostela, Spain, February 6-8 (2008). *Invited*

44. "*Microscopía de efecto túnel a baja temperatura: manipulación y espectroscopía,*"Jornadas de Microscopía de Proximidad ICMAB, Barcelona, Spain, April 20 (2007). *Invited*
45. "*Surface electronic structure at step superlattices: a model to understand ordered nanostructures,*"Summer School on Self-Organized Nanostructures, Cargese, France, July 17-23 (2005). *Invited*

Invited Seminars and Colloquia

1. *"Synthesis and modular engineering of porous graphene nanoarchitectures",* EMPA, November 2 (2023).
2. "*On-surface synthesis of nanostructured graphene*", Technical University of Denmark (DTU), Online, March 19 (2020).
3. "*Bottom-up synthesis of graphene nanostructures: from 0D Qdots, to 1D nanoribbons and 2D nanoporous graphene*" ALBA Synchrotron, Barcelona, Spain, April 29 (2019).
4. "*Tailoring structural and electronic properties of graphene nanostructures with atomic precision*", ICFO- Institut de Ciències Fotòniques, Barcelona, Spain, February 5 (2019).
5. "*Electron confinement on surfaces studied by scanning tunneling spectroscopy*", Instituto de Ciencia de Materiales de Aragón (ICMA), Zaragoza, Spain, May 25 (2018).
6. "*Synthesizing graphene nanostructures with atomic precision*", Universidad de Barcelona, Barcelona, Spain, November 28 (2018).
7. "*Charge and spin manipulation at hybrid organic/metal and organic/topological insulator interfaces*", Technical University of Dortmund, Dortmunt, Germany, November 16 (2017).
8. "*Metal-organic interfaces: is the metallic surface a problem or an advantage?*", CIQUS-Universidad de Santiago de Compostela, Santiago de Compostela, Spain, May 20 (2016).
9. "*Electronic and magnetic properties of single molecules at the metallic interface*", Institute of Physics of the Czech Academy of Sciences, Prague, Czech Republic, December 6 (2016).
10. "*Electronic and magnetic properties at the metal-organic interface*", Instituto de Nanociencia de Aragon, Zaragoza, Spain, March 25 (2015).
11. "*Electronic and magnetic properties at the metal-organic interface*", University of Würzburg, Würzburg, Germany, January 15 (2015).
12. "*Graphene nanostructures on Ni(111): structural, electronic and scattering properties*", Graphene Research Center, Singapore, June 19 (2014).
13. "*Electronic and magnetic properties at the metal-organic interface*", Madrid Institute of Advanced Research in Nanoscience (IMDEA-Nanoscience), Madrid, Spain, February 12 (2013).
14. "*Tutorial on Scanning tunnelling Spectroscopy and Manipulation*", XXXVI National Meeting on Condensed Matter Physics, Aguas de Lindoia, Brazil, May 14 (2013).
15. "*Spin and charge at the molecule-metal interface*", University of Tokyo, Tokyo, Japan, October 2 (2012).

16. "*Spin and charge at the molecule-metal interface*", Okinawa Institute of Science and Technology, Okinawa, Japan, September 21 (2012).
17. "*Does the spin affect electron scattering?*", Synchrotron Radiation Center, Madison, USA, October (2011).
18. "*Magnetic interactions at the molecule-metal interface*", Max-Planck Institute, Stuttgart, Germany, June 29 (2011).
19. "*Understanding the electronic and magnetic properties of metalorganic adsorbates with scanning tunnelling spectroscopy*", Laboratoire Matériaux et Phénomènes Quantiques, Université Paris-Diderot, Paris, France, May 20 (2010).
20. "*Substrate-induced electronic chirality and homochiral growth of an achiral molecule: Copper Phthalocyanine on Ag(100)*", Freie Universität, Berlin, Germany, February 16 (2009).
21. "*Química de molécula individual mediante STM: disociación del agua en Ru(0001)*", Instituto de Ciencia de Materiales de Madrid, ICMM-CSIC, Madrid, Spain, June 25 (2007).
22. "*Manipulation of water monomers by Scanning Tunneling Microscopy*", Universidad de Barcelona, Barcelona, Spain, January 17 (2007).
23. "*Electronic Structure of low-dimensional systems analyzed by angle-resolved photoelectron spectroscopy*", University of Kiel, Kiel, Germany, January 13 (2003).
24. "*Electronic structure of low-dimensional systems analyzed by angle-resolved photoelectron spectroscopy*", Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, USA, April 7 (2003).
25. "*Electronic Structure on vicinal Au(111)*", Universität of Saarbrücken, Saarbrücken, Germany, May 6 (2002).

Other contributions to conferences (uncompleted):

1. *"Bridge engineering for atomically precise graphene-based nanoarchitectures"*, A. Mugarza, Advanced Materials in Spain, November 14 (2023), Zaragoza (Spain). Oral.
2. *"Stabilizing azine functional groups in the on-surface synthesis of graphene nanostructures"*, M. Tenorio, C. Moreno, P. Febrer, J. Castro-Esteban, M. Pruneda, D. Peña, A. Mugarza, On-Surface Synthesis International Workshop, September 27 (2023), St. Feliú de Guixols (Spain). Poster.
3. *"Spin dependent electron scattering in graphene nanostructures on Ni(111)",* A. Mugarza, A. Garcia-Lekue, T. Balashov, M. Olle, G. Ceballos, A. Arnau, D. Sánchez-Portal, and P. Gambardella, International Conference on Magnetism, Barcelona, Spain, July 5-10 (2015). Oral.
4. "*Spin-dependent electron scattering at the graphene-Ni interface",* A. Mugarza, A. Garcia-Lekue, T. Balashov, M. Olle, G. Ceballos, A. Arnau, D. Sánchez-Portal, and P. Gambardella, International Workshop on Organic and Graphene Electronics and Spintronics, Barcelona, Spain, March 12-13 (2015). Oral.
5. "*Electron scattering and spin polarization at the graphene/Ni(111) interface",* A. Mugarza, A. Garcia-Lekue, T. Balashov, M. Ollé, G. Ceballos, A. Arnau, P. Gambardella, and D. Sánchez-Portal, International Conference on Nanoscience and Nanotechnology

(ICN+T), Paris, France, September 9-13 (2013). Oral.

6. "*Electron scattering on the BiAg2 surface alloy: coherent versus isolated steps",* S. Schirone, J. Lobo-Checa, G. Peschel, R. Piquerel, F. Schiller, P. Gambardella, J. E. Ortega, and A. Mugarza, New Trends in Topological Insulators, Sant Feliu de Guixol, Spain, June 3-6 (2013), Poster.
7. "*Electron scattering and spin polarization at the graphene/Ni(111) interface",* A. Mugarza, A. Garcia-Lekue, T. Balashov, M. Ollé, G. Ceballos, A. Arnau, P. Gambardella, and D. Sánchez-Portal, Deutsche Physikalische Gesellschaft (DPG) Spring Meeting, Regensburg, Germany, March 10-15 (2013). Oral.
8. "*Real-space observation of inelastic Kondo effect and interobital spin coupling in molecule-metal contacts",* A. Mugarza, C. Krull, R. Robles, N. Lorente, R. Korytar, S. Stepanow, G. Ceballos, and P. Gambardella, American Physcial Society March Meeting, Boston, USA, February 27-March 2 (2012). Oral.
9. "*Measuring and manipulation at a single molecule level with scanning tunneling microscopy",* A. Mugarza, Workshop on Nanometrology, Barcelona, Spain, May 3-4 (2012). Oral.
10. "*Tuning the magnetic moment of individual molecules at the metallic interface",* A. Mugarza, C. Krull, R. Robles, and P. Gambardella, 24th Symposium on Surface Science, Baqueira, Spain, March 6-12 (2011). Oral.
11. "*Exotic Kondo effect in metalorganic complexes controlled by ion-substrate interaction",* A. Mugarza, C. Krull, R. Robles, and P. Gambardella, Passion for Interfaces, Donostia, Spain, September 27-October 1 (2010). Oral.
12. "*Molecular orbital-mediated Kondo in Cu-Phthalocyanine molecules adsorbed on Ag(100)",* A. Mugarza, C. Krull, N. Lorente, P. Ordejón, S. Stepanow, G. Ceballos, and P. Gambardella, 10th International Conference on Atomically Controlled Surfaces, Interfaces, and Nanostructures, Granada, Spain, September 21-25 (2009). Oral.
13. "*Substrate-induced electronic chirality and homochiral growth of an achiral molecule",* A. Mugarza, N. Lorente, C. Krull, S. Stepanow, G. Ceballos, J. Fraxedas, P. Ordejón, M.-L. Bocquet, and P. Gambardella, 22nd Symposium on Surface Science, St. Moritz, Switzerland, March 8-14 (2009), Poster.
14. "*Tuning the Kondo interaction of an organometallic complex by a controlled modification of molecular orbitals",* A. Mugarza, C. Krull, S. Stepanow, G. Ceballos, N. Lorente, P. Ordejón, and P. Gambardella, Perspectives in Nanoscience and Nanotechnology, Donostia, Spain, September 28-30 (2009). Oral.
15. "*Understanding the adsorption of water molecules on Ru(0001) and their interaction with coadsorbed oxygen by low temperature scanning tunneling microscopy",* A. Mugarza, T. K. Shimizu, D. . Ogletree, and M. Salmeron, 20th Symposium on Surface Science, Les Arcs, France, March 11-17 (2007). Oral.
16. "*Water Adsorption on O(2x2)/Ru(0001)",* A. Mugarza, P. Cabrera-Sanfelix, T. K. Shimizu, D. Sánchez-Portal, M. Salmeron, and A. Arnau, Trends in Nanotechnology, Donostia, Spain, September 3-7 (2007), Poster.
17. "*Effect of oxygen on the structure and dissociation of water on Ru(0001)",* A. Mugarza, T. K. Shimizu, J. I. Cerdá, D. F. Ogletree, and M. Salmeron, American Vacuum Society 53rd International Symposium & Exhibition, San Francisco, USA, November 12-17 (2006). Oral.

18. "*Manipulation of water molecules by scanning tunneling microscopy",* A. Mugarza, T. K. Shimizu, D. F. Ogletree, and M. Salmeron, 232nd National Meeting & Exposition of the American Chemical Society, San Francisco, USA, September 10-14 (2006). Oral.
19. "*Manipulation of water and its decomposition products on O/Ru(0001) induced by inelastic tunneling electrons",* A. Mugarza, T. K. Shimizu, D. F. Ogletree, and M. Salmeron, International Conference on Nanoscience and Technology, Basel, Switzerland, July 30-August 4 (2006). Oral.
20. "*Manipulación de moléculas de agua a través del acoplo vibracional",* A. Mugarza, T. K. Shimizu, D. F. Ogletree, and M. Salmeron, V Congreso Español de Fuerzas y Túnel, Murcia, Spain, September (2006). Oral.
21. "*Design of a Low Temperature STM/DFM",* M. Heyde, A. Mugarza, T. K. Shimizu, Y. Qi, D. F. Ogletree, M. Salmeron, and U. D. Schwarz, Nanoscience and Bionanoscience Research Meeting of the Northern California Chapter of the American Vacuum Society, Berkeley, USA, June 2003 (2003), Poster.
22. "*Design of a Low Temperature UHV STM/DFM",* M. Heyde, A. Mugarza, T. K. Shimizu, Y. Qi, D. F. Ogletree, M. Salmeron, and U. D. Schwarz, 6th International Conference on Non-Contact Atomic Force Microscopy, Dingle, Ireland, August 15-18 (2003), Poster.
23. "*Surface electronic structure at step superlattices on noble metal surfaces",* A. Mugarza, S. Rousset, V. Repain, A. Mascaraque, F. J. Himpsel, F. J. García de Abajo, and J. E. Ortega, European Materials Research Society (E-MRS) Meeting, Strasbourg, France, June 18-21 (2002). Oral.
24. "*Self-assembly of low-dimensional structures by Ag deposition on vicinal silicon surfaces",* J. Kuntze, A. Mugarza, and J. E. Ortega, European Materials Research Society (E-MRS) Meeting, Strasbourg, France, June 18-21 (2002), Poster.
25. "*Funciones de onda de electrones en superredes de escalones",* A. Mugarza, V. Pérez-Dieste, V. Repain, S. Rousset, A. Mascaraque, F. J. García de Abajo, and J. E. Ortega, Reunión Nacional de Física Del Estado Sólido, Madrid, Spain, February 7-9 (2001), Poster.
26. "*Electron wave functions at lateral quantum wells",* A. Mugarza, J. E. Ortega, F. J. García de Abajo, E. V. Chulkov, Y. M. Koroteev, V. Repain, S. Rousset, A. Mascaraque, K. N. Altmann, and F. J. Himpsel, ESF Nanomag Final Workshop on Magnetic Nanostructures, Anglet, France, October 25-27 (2001), Poster.
27. "*The pz-like surface state at vicinal Cu(111)",* J. E. Ortega, A. Mugarza, A. Närmann, A. Rubio, S. Speller, A. R. Bachmann, J. Lobo-Checa, and E. G. Michel, 19th European Conference on Surface Science, Madrid, Spain, September 5-8 (2000), Poster.
28. "*Energy dependent cross section of quantum well states in ultrathin Cu(100) films",* A. Mugarza, J. E. Ortega, A. Mascaraque, E. G. Michel, K. N. Altmann, and F. J. Himpsel, 19th European Conference on Surface Science, Madrid, Spain, September 5-8 (2000). Oral.
29. "*Electronic states on vicinal noble metal surfaces",* J. E. Ortega, A. . Bachmann, S. Speller, A. Närmann, E. G. Michel, A. Mascaraque, A. Mugarza, A. Rubio, and F. J. Himpsel, ESF School on Growth Processes of Metallic Ultrathin Films and Nanostructures on Vicinal Surfaces, Dourdan, France, December 3-4 (1999), Poster.
30. "*One-dimensional and two-dimensional surface states on vicinal Cu(111)",* J. E. Ortega, A. R. Bachmann, S. Speller, A. Närmann, E. G. Michel, A. Mascaraque, A. Mugarza, F. J.

Himpsel, and H. Hoesch, SRC Annual User's Meeting, Madison, USA, October (1999), Poster.