

Dr. Thais María Grancha Marco

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Personal data

First name: Thais María

Surname: Grancha Marco

Gender: Female

Date of birth: February 13th 1987

Address: Campus UAB, Building ICN2, 08193 Bellaterra (Spain)

Phone number: +34 937 374 653

Education

Five-year degree in Chemistry, Faculty of Chemistry, University of Valencia (Sept 2011).

MSc in Molecular Nanoscience and Nanotechnology, Institute of Molecular Science (ICMol), University of Valencia (June 2013).

International PhD in Nanoscience and Nanotechnology (Cum Laude): "Oxamato/Oxamidato-Based Multifunctional Porous Coordination Polymers", Institute of Molecular Science (ICMol), Faculty of Chemistry, University of Valencia, supervised by Prof. Miguel Julve and Dr. Emilio Pardo (July 2017).

Skills

Language

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| Spanish | Native |
| English | Proficiency |
| German | Elemental |

Tools

Microsoft Office Suite, KaleidaGraph, Origin, CrystalMaker, Mercury, HighScore Plus, MestReNova.

Personal

Organised, Attention to detail, Networking, Creative, Resolute, Multitasking, Resilient, Empathic.

Awards

Special award MSc.

Granted research fellowships

Pre-doctorate University of Valencia Fellowship "Atracció de Talent" (2013-2017).

Teaching and science dissemination activities

Inorganic Chemistry laboratory classes in Pharmacy, Food Science, Chemical Engineering, Industrial Electronic Engineering and Biotechnology degrees at the University of Valencia (academic years: 2013/14, 2014/15 and 2015/16).

Participation in Chemistry dissemination *grand public* sessions in "Expociencia" celebrated at the Institute of Molecular Science, University of Valencia (years: 2014, 2016 and 2017).

Participation in research projects

- Multifunctional micro- and nanostructures assembled from nanoscale metal-organic frameworks and inorganic nanoparticles, funded by the European Research Council (2014-2019).
 - Maria de Maeztu Project, funded by the Spanish Ministry of Science and Innovation MDM-2015-0538 (2017-2019).
 - Coordination Chemistry-Based Multifunctional Molecular Magnets, funded by the Spanish Ministry of Science and Innovation CTQ2013-46362-P (2014-2016).
 - Molecular-Based Multiferroic and Non-Linear Optics Magnetic Materials; Synthesis and Characterisation, funded by the Spanish Ministry of Science and Innovation CTQ2013-46362-P (2014-2016).
 - Molecular Magnetism: Multifunctional Magnetic Coordination Compounds, funded by the Spanish Ministry of Science and Innovation CTQ2010-15364 (2011-2013).
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Foreign research stays

Centre: Faculty of Applied Sciences, Chemical Engineering Department (supervised by Prof. Jorge Gascón).

Place: Delft University of Technology (NETHERLANDS). **Year:** 2015. **Duration:** 3 Months

Issue: Synthesis, Characterisation and Physical Properties Measurements of Porous Coordination Polymers.

Centre: Faculty of Applied Sciences, Chemical Engineering Department (supervised by Prof. Jorge Gascón).

Place: Delft University of Technology (NETHERLANDS). **Year:** 2016. **Duration:** 2 Months

Issue: Synthesis, Characterisation and Physical Properties Measurements of Chiral Porous Coordination Polymers.

Techniques or specialities

Organic and Inorganic Chemistry (Coordination Chemistry) syntheses skills.

Rational design, preparation and characterisation of Coordination Compounds involving alkaline-earth, transition and rare- earth metal ions.

Preparation of Layered Solar Cell Devices: Thin layers preparation through Chemical Vapour Deposition in ultra-high vacuum and Spin Coating techniques.

Experience in handling equipments

Superconducting Quantum Interference Device (SQUID)

Physical Property Measurement System (PPMS)

Gas Chromatography

Scanning Electron Microscope (SEM)

UV-Vis Spectrometer

IR Spectrometer

Spectropolarimeter

X-Ray Powder Diffractometer (XRPD)

Thermogravimetric Analysis

Gas Sorption Measurements TriStar 3000

Vapour Sorption Measurements

Participation in national and international meetings

Poster contributions

T. Grancha *et al.* "Structural Characterisation and Magnetic Properties of Copper(II)-Manganese(II)-Based Coordination Polymers". XV Reunión Científica Plenaria de Química Inorgánica (XV Inorganic Chemistry Meeting). **2012**, Girona (SPAIN).

T. Grancha *et al.* "Enantioselective Self-Assembly of Antiferromagnetic hexacopper(II) wheels with chiral amino acid oxamates. XXXIV Reunión Bienal de la Sociedad Española de Química. (XXXIV Spanish Chemistry Society). **2013**, Santander (SPAIN).

T. Grancha *et al.* "Postsynthetic Improvement of the Physical Properties in a Metal-Organic Framework through Single Crystal-to-Single Crystal Transmetalation". 42nd International Conference on Coordination Chemistry. **2016**, Brest (FRANCE).

Oral contributions

T. Grancha *et al.* "Cyanine-Based Bi-layer Solar Cells: MoO₃ vs. PEDOT:PSS". 5th European School on Molecular Nanoscience (EsMoIna). **2012**, Cuenca (SPAIN).

Other

Attendance to the 2012 MRS Fall Meeting, **2012**, Boston (USA).

Attendance to the Young Investigator EuroMOF Symposium, **2015**, Berlin (GERMANY).

Publications in peer-reviewed scientific journals

1. J. Ferrando-Soria, T. Grancha, M. Julve, J. Cano, F. Lloret,* Y. Journaux,* J. Pasán, C. Ruiz-Pérez, E. Pardo*. "Ligand Effects on the dimensionality of Oxamato-Bridged Mixed-Metal Open-Framework Magnets". *Chem. Commun.* **2012**, 48, 3539-3541. [DOI: 10.1039/C2CC17767F]
2. J. Ferrando-Soria, T. Grancha, J. Pasán, C. Ruiz-Pérez, L. Cañadillas-Delgado, Y. Journaux, M. Julve, J. Cano, F. Lloret,* E. Pardo*. "Solid-State Aggregation of Metallacyclophane-Based Mn^{II}Cu^{II} 1D Ladders". *Inorg. Chem.* **2012**, 51, 7019-7021. [DOI: 10.1021/ic300953n]
3. O. Malinkiewicz; T. Grancha; A. Molina-Ontoria; A. Soriano; H. Brine; H. J. Bolink. "Efficient, Cyanine Dye Based Bilayer Solar Cells". *Adv. Energy Mater.* **2012**, 3, 472-477. [DOI: 10.1002/aenm.201200764]
4. T. Grancha, J. Ferrando-Soria, J. Cano, F. Lloret, M. Julve, G. De Munno,* D. Armentano, E. Pardo*. "Enantioselective self-assembly of antiferromagnetic hexacopper(II) wheels with chiral amino acid oxamates". *Chem. Commun.* **2013**, 49, 5942-5944. [DOI: 10.1039/c3cc42776e]
5. T. Grancha, C. Tourbillon, J. Ferrando-Soria, M. Julve, F. Lloret, J. Pasán, C. Ruiz-Pérez, O. Fabelo, E. Pardo. "Self-assembly of a chiral three-dimensional manganese(II)/copper(II) coordination polymer with a double helical architecture". *Cryst. Eng. Comm.* **2013**, 15, 9312-9315. [DOI: 10.1039/c3ce41022f]
6. X. Liu, S. Chen,* T. Grancha, E. Pardo,* H. Ke, B. Yin, Q. Wei, G. Xie, S. Gao. "A triple-bridged azido-Cu(II) chain compound fine-tuned by mixed carboxylate/ethanol linkers displays slow-relaxation and ferromagnetic order: synthesis, crystal structure, magnetic properties and DFT calculations". *Dalton Trans.* **2014**, 43, 15359-15366. [DOI: 10.1039/c4dt02195a]
7. T. Grancha; J. Ferrando-Soria*; M. Castellano; M. Julve; J. Pasán; D. Armentano; E. Pardo*. "Oxamato-based coordination polymers: recent advances in multifunctional magnetic materials". *Chem. Commun.* **2014**, 50, 7569-7585. [DOI: 10.1039/c4cc01734j]
8. J. Palion-Gazda; A. Zwitlicka-Olszewska; B. Machura; T. Grancha; E. Pardo; F. Lloret; M. Julve. "High-Temperature Spin Crossover in a Mononuclear Six-Coordinate Cobalt(II) Complex". *Inorg. Chem.* **2014**, 53, 10009-10011. [DOI: 10.1021/ic501195y]
9. T. Grancha, M. Mon, F. Lloret, J. Ferrando-Soria,* Y. Journaux, J. Pasán, E. Pardo*. "Double Interpenetration in a Chiral Three-Dimensional Magnet with a (10,3)-a Structure". *Inorg. Chem.* **2015**, 54, 8890-8892. [DOI: 10.1021/acs.inorgchem.5b01738]

10. T. Grancha, J. Ferrando-Soria,* H.-C. Zhou, J. Gascon,* B. Seoane, J. Pasán, O. Fabelo, M. Julve, E. Pardo*. "Postsynthetic Improvement of the Physical Properties in a Metal-Organic Framework through a Single Crystal to Single Crystal Transmetalation". *Angew. Chem. Int. Ed.* **2015**. 54, 6521-6525. [DOI: 10.1002/anie.201501691]
 11. T. Grancha, A. Acosta, J. Cano, J. Ferrando-Soria,* B. Seoane, J. Gascon, J. Pasán, D. Armentano,* E. Pardo*. "Cation Exchange in Dynamic 3D Porous Magnets: Improvement of the Physical Properties". *Inorg. Chem.* **2015**, 54, 10834-10840. [DOI: 10.1021/acs.inorgchem.5b01854]
 12. T. Grancha, M. Mon, J. Ferrando-Soria*, D. Armentano*, E. Pardo*. "Structural Studies on a New Family of Chiral BioMOFs". *Crys. Growth. Design.* **2016**. 16, 5571-5578. [DOI: 10.1021/acs.cgd.6b01052]
 13. M. Mon, A. Pascual-Álvarez, T. Grancha, J. Cano, J. Ferrando-Soria, F. Lloret, J. Gascon, J. Pasán, D. Armentano* and E. Pardo*. "Solid-State Molecular Nanomagnet Inclusion into a Magnetic Metal Organic Framework: Interplay of the Magnetic Properties". *Chem. Eur. J.* **2016**. 22, 539-545. [DOI: 10.1002/chem.201504176]
 14. A. Abhervé; T. Grancha; J. Ferrando-Soria; M. Clemente-León; E. Coronado; J.C. Waerenborgh; F. Lloret; E. Pardo. "Spin-crossover complex encapsulation within a magnetic metal-organic framework". *Chem. Commun.* **2016**. 52, 7360-7363. [DOI: 10.1039/c6cc03667h]
 15. M. Mon, J. Ferrando-Soria, T. Grancha, F. R. Fortea-Pérez, J. Gascón, A. Leyva-Pérez,* D. Armentano,* E. Pardo*. "Selective Gold Recovery and Catalysis in a Highly Flexible Methionine-Decorated Metal-Organic Framework". *J. Am. Chem. Soc.* **2016**. 138, 7864-7867. [DOI: 10.1021/jacs.6b04635]
 16. M. Mon, T. Grancha, M. Verdaguer, C. Train, D. Armentano,* E. Pardo*. "Solvent-Dependent Self-Assembly of an Oxalato-Based Three-Dimensional Magnet Exhibiting a Novel Architecture". *Inorg. Chem.* **2016**. 55, 6845-6847. [DOI: 10.1021/acs.inorgchem.6b01256]
 17. T. Grancha, J. Ferrando-Soria, J. Cano, P. Amorós, B. Seoane, J. Gascon,* M. Bazaga-García, E. R. Losilla, A. Cabeza, D. Armentano,* E. Pardo*. "Insights into the Dynamics of Grotthuss Mechanism in a Proton-Conducting Chiral bioMOF". *Chem. Mater.* **2016**. 28, 4608-4615. [DOI: 10.1021/acs.chemmater.6b01286]
 18. W. X. C. Oliveira; C. L. M. Pereira; C. B. Pinheiro; K. Krambrock; T. Grancha; N. Moliner; F. Lloret; M. Julve. "Oxotris(oxalato)niobate(V) as counterion in cobalt(II) spin-crossover systems". *Polyhedron.* **2016**. 117, 710-717. [DOI: 10.1016/j.poly.2016.07.014]
 19. T. Grancha, X. Qu, M. Julve, J. Ferrando-Soria, D. Armentano,* E. Pardo*. "Rational Synthesis of Chiral Metal-Organic Frameworks from Preformed Rodlike Secondary Building Units". *Inorg. Chem.* **2017**. 56, 6551-6557. [DOI: 10.1021/acs.inorgchem.7b00681]
 20. T. Grancha, M. Mon, J. Ferrando-Soria, J. Gascón, B. Seoane, E. V. Ramos-Fernandez, D. Armentano,* E. Pardo*. "Tuning the Selectivity of Light Hydrocarbons in Natural Gas in a Family of Isorecticular MOFs". *J. Mat. Chem. A.* **2017**. 5, 11032-11039. [DOI: 10.1039/c7ta01179b]
 21. J. Palion-Gazda,* B. Machura, R. Kruszynski, T. Grancha, N. Moliner, F. Lloret, M. Julve. "Spin Crossover in Double Salts Containing Six- and Four-Coordinate Cobalt(II) Ions". *Inorg. Chem.* **2017**. 56, 6281-6296. [DOI: 10.1021/acs.inorgchem.7b00360]
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