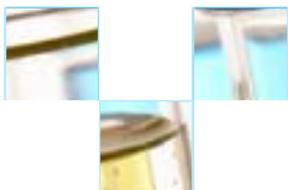
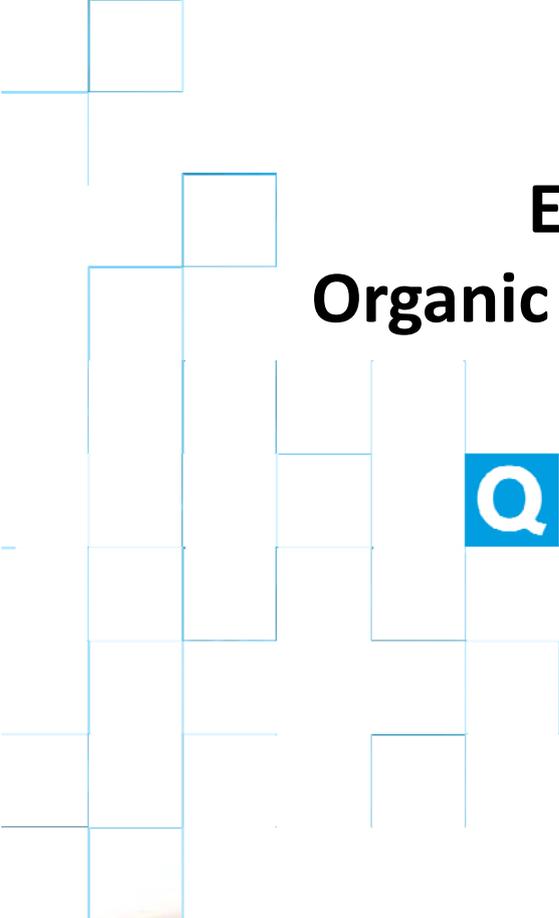


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Engineered-surface Metal- Organic framework nanoparticles for drug delivery



Patricia Horcajada

*Head of the Advanced Porous
Materials Unit in IMDEA
Energy, Madrid (Spain)*

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Engineered-surface Metal-Organic framework nanoparticles for drug delivery

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The involvement of Metal-Organic Frameworks (MOFs) in biomedical applications is currently one of the hot topics in the emerging field of hybrid porous solids.¹ In particular, nanometric MOFs (nan-MOFs) have recently attracted a great deal of attention owing to their large porosity and versatile composition, enabling to entrap remarkable loadings of a wide variety of challenging active molecules and progressive releases, together with imaging properties.² However, prior to any practical use of nanoMOFs, it is of a high societal relevance to investigate their biostability,³ toxicity⁴ and biodistribution.⁵

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- [2] P. Horcajada *et al.*, *Nature Mater.* **2010**, *9*, 172; C. Roch *et al.*, *Eur. J. Inorg. Chem.* **2016**, *2*, 4387
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- [5] E. Bellido *et al.*, *Adv. Health. Mater.*, **2015**, *4*, 1246; T. Simon-Yarza *et al.*, *Int. J. Pharm.* **2016**, 511, 1042; T. Hidalgo *et al.*, *Sci. Rep.*, **2016**, under revision.

Curriculum vitae: Patricia HORCAJADA CORTES

38 years. *Head of the Advanced Porous Materials Unit* in IMDEA Energy, Madrid (Spain)

Education

2012-2016 *Animal care authorization* (1st level + surgery) n. A92-389
2012 *Accreditation to supervise research* (HDR), Material Chemistry at UVSQ, France.
2005 *Ph.D. of pharmacy* at the Universidad Complutense de Madrid (UCM), Spain.
2006 *MSc in Marketing* of pharmaceutical industry, Universidad Nacional de Educacion
2004 *Pedagogic certificate* (CAP), Spain.
2003 *MSc in pharmacy* at the UCM, Spain.
2001 *BSc in pharmacy* by the UCM, Spain.

Research experience

Feb2016-present *Ramon y Cajal researcher, Senior researcher and Head of the Unit* "Advanced Porous Materials" in IMDEA Energy, Spain
Oct2007-Jan2016 **Permanent researcher** (CR1) at Institut Lavoisier CNRS UMR8180, UVSQ, France.
Dec2005-Sep2007 *Postdoctoral fellowship*, Institut Lavoisier CNRS UMR8180, UVSQ, France
2003-2005 *Doctoral fellowship* from the Ministry of Education and Culture, UCM, Spain

Participation in funded research projects

Participation in 30 highly multidisciplinary projects (22 National-3 Spanish and 19 French-, 4 European, 4 International) and 5 industrial contracts, coordinating 7 National ; 1 European and 1 International projects).

Industrial partners : Michelin, Total, BASF, Spi-Bio, Biocreation Cosmetic, Sanofi Aventis, Guerbet, etc.

Scientific production

4 book chapters (1 accepted), 8 patents and 108 publications (published or accepted).

With a **H-Index of 39**, the scientific quality and interest of her research is evidenced by the publication of **more than 70 articles in high-impact journals (IF>4)**, and the important number of citations: more than **8950 citations** (>8200 without self-citations) with **over 1500 citations per year in the last four years** (1213, 1496, 1725 and 1713 for 2013, 2014, 2015 and 2016, respectively). In this sense, **16 articles have been cited more than 100 times** (according with Scopus; Jan 2017).

Participation in 62 conferences, including **12 invited presentations and 1 plenary lecture**

Advisees

21 Undergraduated, 8 BSc, 12 MSc; 3 technical engineer and 17 posdoctoral researchers (8 have got a permanent position either in academia or industry)

8 PhD students: T. Chalati (2010), D. Cunha (2012), F. Ragon (2013), P. Pinto Mendes (2013), C. Tamames Tabar (2010-2014), T. Hidalgo Crespo (2015), C. Fernandez Paz (in progress), Pablo Salcedo (in progress)

Fellowships and awards

- 2016-2020 *Ramon y Cajal Contract* (from MINECO) RYC-2014-15039
- 2016-2017 *Programme AMAROUT II Marie Curie Europe Program (People-Cofund)*
Conductive Polymer-MOFs composites for energy oriented smart applications
- 2011-2014 *CNRS Scientific Excellence Prize* (PES)
- 2005-2007 *Postdoctoral fellowship* CNRS
- 2005 *PhD Distinction Award* UCM
- 2003-2005 *PhD fellowship* from the Ministry of Education and Culture, Spain
- 2000-2001 *Collaboration grant*, UCM

Institutional responsibilities

2016-act *Head of the Advanced Porous Materials Unit* in IMDEA Energy
2016-act *Nominated member of the Dissemination and Communication Committee* of IMDEA Energy
2016-act *Nominated member of the Laboratory Committee* of IMDEA Energy
2015-2016 *Elected member of the Laboratory Committee*, Institut Lavoisier
2012-2016 *Nominated member of the Scientific Committee of the Excellence Laboratory NanoSaclay*"
2009-2016 *Secretary of the Action Committee for the Mutual Assistance of the Staff* CAESP-UVSQ