

# Curriculum Vitae

## PERSONAL INFORMATION

**Giménez López, Maria del Carmen** *School of Chemistry, University of Nottingham*  
 Date of birth: December 28<sup>th</sup>, 1977 NG7 2RD, United Kingdom  
**ResearcherID: A-8481-2012** Email: Maria.Gimenez-Lopez@nottingham.ac.uk  
**ORCID: 0000-0003-4644-2528** Tel: + 44 (0) 7942217773  
**Author ID: 24279232700**



2 Career breaks Maternity Leave (October 2012 – July 2013)  
 (19 months): Maternity Leave (September 2016 – Present)

Web page: <http://www.nottingham.ac.uk/chemistry/people/maria.gimenez-lopez>  
<http://www.gimenezgroup.com/>

## PRESENT POSITIONS

## FUNDING

2015–Present	<b>Assistant Professor in Materials Chemistry</b> , University of Nottingham, UK	<b>ERC St Grant 2016 – 1.7M €</b>
2011–Present	<b>Royal Society Dorothy Hodgkin Research Fellow</b> , Title: “ <i>Nano-Magnets in Carbon Nanostructures</i> ” <i>Independent Researcher</i> –University of Nottingham, UK	<b>Five-year Fellowship – £470k</b> (Success rate 6% in 2011)

## RESEARCH CAREER

## GRANTS/FELLOWSHIPS

2011	<b>Postdoctoral Research Associate</b> –Khlobystov’s Group, University of Nottingham, UK	
2009–2011	<b>Marie Curie Fellow</b> –Khlobystov’s Group Title: “ <i>Transition Metals in Carbon Nanostructures</i> ”, University of Nottingham, UK	<b>Two-year Marie Curie Intra-European Research Fellowship – 178 307 € (FP7)</b>
2006–2009	<b>Postdoctoral Research Associate</b> –Champness Group, Title: “ <i>Supramolecular self- assembly of 1-10 nm templates for functional surfaces, quantum information processing and nanoelectronics</i> ”, University of Nottingham, UK	
2005–2006	<b>Research Collaboration Fellow</b> –ICMoL, Title: “ <i>Hybrid molecular materials relevant in magnetism and molecular electronic</i> ” University of Valencia, Spain	<b>One-year Valencia University Collaboration Fellowship</b>
2001–2005	<b>Early Stage Researcher</b> –Dept. Inorg. Chem., University of Valencia, Spain	<b>Four-year Predoctoral Grant (Regional Government)</b>
1999–2000	<b>Student Collaborator</b> –Dept. Inorg. Chem., University of Valencia, Spain	<b>One-year Collaboration Grant (Spanish Government)</b>

## EDUCATION

2006 **PhD in Chemistry**–University of Valencia (Spain), Mention: Sobresaliente Cum Lauden (Top mark), Title: “*Multifunctional materials of interest in Molecular Magnetism: switchable systems and hybrid materials based on Coordination Chemistry*”, PhD Supervisors: Prof. E. Coronado

2002 **Advanced Studies Diploma (Master of Advanced Studies)**–University of Valencia, Spain

2000/1998 **M.Sc./B.Sc. in Chemistry**–University of Valencia, Spain

## AWARDS

2016 & 2017 **Emerging Talent SRUK/CERU Award finalist** for the impact of her studies on the development of materials chemistry using carbon nanostructures.

2012 **Sigma-Aldrich Emerging Investigator Award of the Spanish Royal Society of Chemistry (RSEQ)** in recognition of the most outstanding and novel research under 36 years old–*Highlighted in Angew. Chem. Int. Ed. 2012, 51, 12657 – 12658 and "Anales de la Real Sociedad Española de Química" (2012, vol 108, 2, 166-176)*

2000 **Extraordinary Award for highest Degree in Chemistry at the University of Valencia**

## MEMBERSHIPS

Royal Society of Chemistry (MRSC); Society of Spanish Researches in the United Kingdom (SRUK/CERU); Spanish Royal Society of Chemistry (RSEQ) & Young Chemist Researchers Specialized Group (RSEQ)

## SCIENTIFIC PROJECTS/CONTRACTS LED (Participation as PI)

- 2017 **Ramon y Cajal**, Title: Multifunctional metal-carbon hybrid nanostructures for spintronics and energy-related applications; Ref: RYC-2016-20258–40k€
- 2016–2022 **ERC Starting Grant**, Title: Complex Dynamics of Clusters in High-Aspect Ratio Hollow Nanostructures: A Nanoscale Platform for High-Performance Computing; Ref: ERC-STG-NANOCOMP-679124–1.7M€
- 2015–2016 **Advanced Molecular Materials RPA funding for collaborative work (UoN)**, Title: Highly Ordered Mesoporous Titania Incorporating Magnetic and Electrocatalytic Active Nanoswitches: Effect of Confinement on their Functional Properties – £30k
- 2015–2019 **EPSRC DTGC–Funding for a PhD Studentship in Complex Systems and Processes**, Title: Electrochemical-Structural Correlations of Complex Metal-Carbon Nanostructures with Energy Storage Performance – 36 months
- 2014–2016 **EPSRC Quantum Technologies Sponsorship. Case for Support**, Title: “Arrays of Quantum Bits in Carbon Nanotubes” – £90k
- 2011–2016 **Royal Society Research Grant**, Title: “Multifunctional Hybrids Nanostructures” – £137k
- 2011–2018 **Royal Society Research Award**, Title: “Nano-Magnets in Carbon Nanostructures” – £470k

## MASTERS THESES DIRECTED (at the University of Nottingham)

- 2014 – Glen Murray– *The development of novel spin crossover materials*  
Adam Denington– *Metal-carbon hybrid nanostructured materials for energy related applications*
- 2015 – Joshua Lee, – *The structure-property relationship of a  $[Fe(bpp)_2]^{2+}$  SCO lattice and its integration at the nanoscale*  
Alana Murphy– *Preparation and functional characterisation of hybrid materials for applications in supercapacitors*
- 2016 – Ryan Ronan– *Design and investigation of carbon-nanostructure hybrids for magnetic and energy related purposes*  
Thomas Beard– *Controlled assembly of single molecular magnets in carbon nanofibers*

## DOCTORAL THESES DIRECTED (at the University of Nottingham)

- 15/1/2017 Abdullah Kurtoglu Title: *Electrocatalyst in nanotubes*
- 1/6/2017 Carlos Herreros-Lucas Title: *Hybrid metal-carbon nanostructures for energy-related applications*
- 21/10/2017 Mehtap Aygun Title: *Design of catalytic and functional carbon nanoreactors*

## POSITIONS OF TRUST

- Reviewer for the *Royal Society of Chemistry*, *Elsevier*, *InTech* (Nanomaterials and Nanotechnology) and *Wiley-Blackwell* (book proposals).
- Panel Member in the Royal Society’s International Exchanges Panel.
- Remote Expert Evaluator of the Future and Emerging Technologies (FET) Programme & Marie Skłodowska-Curie Actions Individual Fellowships programme (MSCA-IF) (Horizon 2020) and the French National Research Agency.

## SELECTED INVITED SEMINARS

- 13<sup>th</sup> July 2016– CIQUS, Universidad de Santiago de Compostela (Spain)
- 1<sup>st</sup> June 2016– Chemistry Department, University of Liverpool (UK)
- 22<sup>nd</sup> July 2015– School of Engineering & Materials Science, Queen Mary, University of London (UK)
- 28<sup>th</sup> May 2012 – CIC nanoGUNE, San Sebastian (Spain)
- 1<sup>st</sup> April 2011 – IMDEA Nanociencia, Madrid (Spain)

## SELECTED ORAL CONTRIBUTIONS TO CONFERENCES

- 2017 – Title: *Redox and Magnetically Active Nanoparticles Encapsulated in Hollow Carbon Nanofibers*, 13<sup>th</sup> International Conference on Materials Chemistry (MC13), Liverpool, UK (10-13 July, 2017).
- 2015 – Title: *Hybrid Metal-Carbon Nanostructures for Spintronic Applications*, Conference 2015 Advances in Functional Materials, Stony Brook University, New York (USA); Date: 29<sup>th</sup> June-3<sup>rd</sup> July 2015

CAREER RECORD			
<b>40 scientific publications</b> in high-calibre peer-review international journals + <b>1 book chapter</b>			
<i>Science</i> (1) <sup>1</sup>	<i>Nature Commun.</i> (2) <sup>2</sup>	<i>Adv. Mater.</i> (1) <sup>3</sup>	<i>Chem. Commun.</i> (2)
<i>Nature Materials</i> (1) <sup>1,2</sup>	<i>J. Am. Chem. Soc.</i> (3) <sup>1,2</sup>	<i>ACS Nano</i> (1)	<i>Inorg. Chem.</i> (2)
<i>Nature Chemistry</i> (2) <sup>2</sup>	<i>Angew. Chem. Int. Ed.</i> (1)	<i>Small</i> (2)	<i>Langmuir</i> (1)
n° citations = 1307	<b>h-index = 20</b>	<b>5 “highly cited”</b> papers (>80)	Citations/article = 32.7

<sup>1</sup>Highlighted in News & Views ; <sup>2</sup>Covered in popular press; <sup>3</sup>Inside cover

### SELECTED PEER-REVIEWED PUBLICATIONS

**Authors:** Mehtap. Aygun, Craig Stoppiello, Maria Lebedeva, Emily Smith, Maria del Carmen Gimenez-Lopez, Andrei Khlobystov, Thomas Chamberlain.

Title: “*Comparison of alkene hydrogenation in carbon nanoreactors of different diameters: probing the effects of nanoscale confinement on ruthenium nanoparticle catalysis*”

**Journal:** *Journal of Materials Chemistry A*, 2017, 5, 21467 – 21477.

**Authors:** Olga Metelkina, Rhys Lodge, Vasily Gerasimov, Carlos Herreros-Lucas, Alexander Savchenko, Graham Rance, Maria del Carmen Gimenez-Lopez, Andrei N. Khlobystov, Alexander Majouga.

Title: “*Nanoscale Engineering of Hybrid Magnetite-Carbon Materials for MRI Contrast Agents*”

**Journal:** *Journal of Materials Chemistry C*, 2017, 5, 8, 2167 – 2174.

**Authors:** Maria del Carmen Gimenez-Lopez, Abdullah Kurtoglu, Darren A. Walsh, Andrei N. Khlobystov.

Title: “*Extremely Stable Platinum-Amorphous Carbon Electrocatalyst within Hollow Graphitized Carbon Nanofibers for the Oxygen Reduction Reaction*”

**Journal:** *Adv. Mater.*, 2016, 28, 41, 9103 – 9108. (Inside back cover)

**Authors:** Alessandro La Torre, Maria del Carmen Gimenez-Lopez, Michael W. Fay, Carlos Herreros Lucas, Paul D. Brown, Andrei N. Khlobystov.

Title: “*Dynamics of Gold Nanoparticles on Carbon Nanostructures Driven by van der Waals and Electrostatic Interactions*”

**Journal:** *Small*, 2015, 11, 23, 2756 – 2761.

**Authors:** Maria del Carmen Gimenez-Lopez, Alessandro La Torre, Michael W. Fay, Paul D. Brown, Andrei N. Khlobystov.

Title: “*Assembly and Magnetic Bistability of Mn<sub>3</sub>O<sub>4</sub> Nanoparticles Encapsulated in Hollow Carbon Nanofibers*”

**Journal:** *Angew. Chem. Int. Ed.*, 2013, 52, 2051 – 2054.

**Authors:** Guoquan Liu, Maria del Carmen Gimenez-Lopez, Martyn Jevric, Andrei N. Khlobystov, G. Andrew D. Briggs and Kyriakos Porfyraakis.

Title: “*Alignment of N@C60 Derivatives in a Liquid Crystal Matrix*”

**Journal:** *J. Phys. Chem. B*, 2013, 117, 5925 – 5931.

**Authors:** Alessandro La Torre, Maria del Carmen Giménez-López, Michael W. Fay, Graham A. Rance, William A. Solomonsz, Thomas W. Chamberlain, Paul D. Brown, Andrei N. Khlobystov.

Title: “*Assembly, Growth, and Catalytic Activity of Gold Nanoparticles in Hollow Carbon Nanofibers*”

**Journal:** *ACS Nano*, 2012, 6, 3, 2000 – 2007.

**Authors:** Alessandro La Torre, Michael W. Fay, Graham A. Rance, Maria del Carmen Gimenez- Lopez, William A. Solomonsz, Paul D. Brown, and Andrei N. Khlobystov.

Title: “*Interactions of Gold Nanoparticles with the Interior of Hollow Graphitized Carbon Nanofibers*”

**Journal:** *Small* 2012, 8, 8, 1222 – 1228.

**Authors:** A. Stannard, J.C. Russell, M.O. Blunt, M.C. Gimenez-Lopez, C. Sallessiotis, N. Taleb, X. Lin, M. Schröder, N.R. Champness, J.P. Garrahan, P.H. Beton.

Title: “*Broken symmetry and the variation of critical properties in the phase behaviour of molecular rhombus tilings*”

**Journal:** *Nature Chemistry*, 2012, 4, 112 – 117.

**Authors:** S.P. Argent, A. Greenaway, M.C. Gimenez-Lopez, W. Lewis, H. Nowell, A.N. Khlobystov, A.J. Blake, N.R. Champness, M. Schröder.

Title: “*High Nuclearity Metal-organic Nanospheres: A Cd<sub>66</sub> Ball.*”

**Journal:** *Journal of the American Chemical Society*, 2011, 134, 55 – 58.

**Authors:** Andrey Chuvilin, Elena Bichoutskaia, Maria del Carmen Gimenez-Lopez, Thomas W. Chamberlain, Graham. A. Rance, N. Kuganathan, J. Biskupek, Ute Kaiser, Andrei N. Khlobystov.

Title: “*Self-assembly of a sulphur-terminated graphene nanoribbon within a single-walled carbon nanotube*”

**Journal:** *Nature Materials*, 2011, 10, 687 – 692. Highlighted in *Nature Materials (News and Views, 2011, 10, 651)* and in the popular press (*Nanotimes magazine, ScienceDaily, Physorg.com*).

**Authors:** Maria del Carmen Giménez-López, Fabrizio Moro, Alessandro La Torre, Carlos Gomez-Garcia, Joris van Slageren, and Andrei N. Khlobystov.

**Title:** “Single-molecule magnets in carbon nanotubes”

**Journal:** *Nature Communications*, 2011, 2:47. *Highlighted in Nanowerk.*

**Authors:** Maria del Carmen Gimenez-Lopez, Minna Räsänen, Thomas W. Chamberlain, Uli Weber, Maria Lebedeva, Graham A. Rance, G. Andrew D. Briggs, David Pettifor, Victor Burlakov, Manfred Buck, Andrei N. Khlobystov.

**Title:** “Controlled Assembly of Thiol- and Thioether- Functionalised Fullerenes in 2D Molecular Arrays”

**Journal:** *Langmuir*, 2011, 27, 17, 10977 – 10985.

**Authors:** Maria del Carmen Gimenez-Lopez, Andrey Chuvilin, Ute Kaiser, Andrei N. Khlobystov.

**Title:** “Functionalised Endohedral Fullerenes in Single-Walled Carbon Nanotubes”

**Journal:** *Chemical Communications*, 2011, 47, 2116 – 2118.

**Authors:** Matthew O. Blunt, James C. Russell, Maria del Carmen Gimenez-Lopez, Xiang Lin, Martin Schröder, Neil R. Champness, Peter H. Beton.

**Title:** “Guest-Induced Growth of a Surface-Based Supramolecular Bilayer”

**Journal:** *Nature Chemistry*, 2011, 3, 74 – 78 (*Featured in ScienceDaily*)

**Authors:** Alex Saywell, Graziano Magnano, Christopher J. Satterley, Luís M.A. Perdigão, Andrew J. Britton, Nassiba Taleb, María del Carmen Giménez-López, Neil R. Champness, James N. O’Shea and Peter H. Beton.

**Title:** “Self-assembled aggregates formed by single molecule magnets on a gold surface”

**Journal:** *Nature Communications*, 2010, 1:75

**Authors:** Maria del Carmen Gimenez-Lopez, Jules Gardener, Adam Shaw, Agnieszka Iwasiewicz-Wabnig, Kyriakos Porfyrakis, Claire Balmer, Geraldine Dantelle, Maria Hadjipanayi, Alison Crossley, Neil R. Champness, Martyn Castell, Andrew Briggs, Andrei N. Khlobystov.

**Title:** “Endohedral metallofullerenes in self-assembled monolayers”

**Journal:** *Physical Chemistry Chemical Physics*, 2010, 12, 123-131. (*Hot article*)

**Authors:** Matthew Blunt, Xiang Lin, Maria del Carmen Gimenez-Lopez, Martin Schröder, Neil R. Champness, Peter H. Beton.

**Title:** “Directing two-dimensional molecular crystallization using guest templates”

**Journal:** *Chemical Communications*, 2008, 20, 2304-2306. (*Hot article*)

**Authors:** Miguel Clemente-León, Eugenio Coronado, M. Carmen Giménez-López, Alejandra Soriano-Portillo, João C. Waerenborgh, Fernando S. Delgado, Catalina Ruiz-Pérez

**Title:** “Insertion of a spin crossover  $Fe^{III}$  complex into an oxalate-based layered material: Coexistence of spin canting and spin crossover in a hybrid magnet”

**Journal:** *Inorganic Chemistry*, 2008, 47, 9111-9120.

**Authors:** Matthew O. Blunt, James Russell, María del Carmen Giménez-López, Juan P. Garrahan, Xiang Lin, Martin Schröder, Neil R. Champness, Peter H. Beton.

**Title:** “Random Tiling and Topological Defects in a Two-Dimensional Molecular Network”

**Journal:** *Science*, 2008, 322, 5904, 1077-1081, (*Highlighted in “Nature Nanotechnology” and “Nature Chemistry” and also in “American Mathematical Society”*)

**Authors:** Eugenio Coronado, M. Carmen Giménez-López, Tomasz Korzeniak, Georgiy Levchenko, Francisco M. Romero, Valentín García-Baonza, Julio C. Cezar, Frank M. F. de Groot, Alla Milner, Moshe Paz-Pasternak

**Title:** “Pressure-induced Magnetic Switching and Linkage Isomerism in  $K_{0.4}Fe_4[Cr(CN)_6]_{2.8} \cdot 16H_2O$ : X-ray Absorption and Magnetic Circular Dichroism Studies”

**Journal:** *Journal of the American Chemical Society*, 2008, 130, 15519-15532.

**Authors:** Miguel Clemente-León, Eugenio Coronado, Mari Carmen Giménez López, Francisco M. Romero

**Title:** “Structural, Thermal and Magnetic Study of Solvation Processes in Spin Crossover  $[Fe(bpp)_2][Cr(L)(ox)_2]_2$  complexes”

**Journal:** *Inorganic Chemistry*, 2007, 46, 11266-11276.

**Authors:** Eugenio Coronado, Mari Carmen Giménez-López, Georgiy Levchenko, F. M. Romero, Valentín García-Baonza, Alla Milner, Moshe Paz-Pasternak

**Title:** “Pressure-Tuning of Magnetism and Linkage Isomerism in Iron(II) Hexacyanochromate”

**Journal:** *Journal of the American Chemical Society*, 2005, 127, 4580-4581 (*Highlighted in Chemistry World, (May 2005, 2, 5, 22) “Induced isomerisation causes iron to switch its spin state”*)

## BOOK CHAPTER

**Authors:** Thomas W. Chamberlain, Maria del Carmen Giménez-López and Andrei N. Khlobystov;

**Chapter title:** “Carbon Nanotubes as Containers” (pages 349-384);

**Book title:** “*Carbon Nanotubes and Related Structures: Synthesis, Characterization, Functionalization and Applications*”. Edited by D. M. Guldi and N. Martin. Wiley-VCH Verlag. GmbH & Co. KGaA, Weinheim. ISBN: 978-3-527-32406-4, 2010.