



Maria Ibáñez

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Born: 14th of October 1983

Nationality: Spain

Disciplines: Material science, nanocomposites, energy harvesting, nanoscale, thermoelectricity

Researcher ID: B-2445-2014

EDUCATION

- 2013 Ph.D. in Physics, University of Barcelona, Spain (Ph.D extraordinary award) Highest category jury unanimous “*Excellent Cum Laude*”
- 2009 M.S. in Physical Engineering, University of Barcelona, Spain
- 2008 B.S. in Physics, University of Barcelona, Spain

EMPLOYEMENT

- 2018- Assistant Profesor – IST Austria
- 2014-2018 Research Fellow – ETH Zürich, Switzerland
- 2013-2014 Research Fellow – IREC, Spain
- 2013 Visiting Researcher – Northwestern University, USA.
- 2012 Visiting Ph.D. student – Cornell University, USA.
- 2011 Visiting Ph.D. student – Caltech Materials Science, USA.
- 2010 Visiting Ph.D. student – University of Chicago, USA.
- 2009-2013 Graduate researcher assistant – University of Barcelona, Spain.
- 2009 Visiting Ph.D. student – Institute for Nanoscience and Cryogenics (INAC), CEA, France.
- 2008-2009 Graduate researcher assistant – University of Barcelona, Spain.
- 2008 Graduate researcher assistant – University of Barcelona, Spain.

SUMMARY OF SCIENTIFIC ACTIVITIES

- 55 publication in refereed journals: Science (1), Nature Materials (1), Nature Communications (1), ACS Nano (3), J. Am. Chem. Soc. (9), Nano Lett. (1), Adv. Mater. (1), Chem. Mater. (6), Chem. Commun. (1), J. Mater. Chem. A (4), J. Phys. Chem. C (2), Langmuir (4), CrystEngComm (2), ACS Appl. Mater. Interfaces (2); etc.
- Mean Journal Impact Factor: 10.1

- Citations >3099; h-index: 31 (Google Scholar)
- Journal referee: J. Am. Chem. Soc., Angew. Chem. Int. Ed., Chem. Mater., Chem. Eng. J., Adv. Mater, J. Chem. Mater. A, Adv. Mater., J. Alloys Compd., and Mater. Lett.
- 21 invited talk at conferences, universities and research centers (2009-2018)
- Teaching: 529-0134-00G Functional Inorganics Materials – ETH Zürich (M.S. Chemistry, lecture on Thermoelectrics, 2016); Nanoenergy – University of Barcelona (M.S. Nanoscience and Nanotechnology; Assistant Lecture); Semiconductor Physics – University of Barcelona (B.S. Physics; Assistant Lecture)
- External consultant for project evaluation of the Academia Sinica (China) for “Sustainability Science Research Program”
- Funding received ~180.000 Euros in fellowships (File n. 2013 BP-A00344; File n. AP2008-03845) and grants (ETH career seed grant SEED-18 16-2)

HONORS AND AWARDS

2017	Ružička Prize	ETH Zürich
2017	ETH career seed grant (SEED-18 16-2)	ETH Zürich
2014-2016	Beatriu de Pinós Postdoctoral Grant	Catalan Government
2014	PhD Extraordinary Award	University of Barcelona
2012	Mobility Grant. Cornell University (USA)	Spanish Government
2010	Mobility Grant. University of Chicago (USA)	Spanish Government
2009-2013	Training programme for Academic Staff (FPU)	Spanish Government
2008	Mobility Grant. Uppsala Universitet (Sweden)	Catalan Government
2006-2007	Physics degree fellowship	Spanish Government
2002-2003	Physics degree fellowship	Spanish Government

PHD ADVISING AND OTHER FORMATION ACTIVITIES

2016	David Ollodart – University of Washington B.S. Student (undergraduate research project)
2016	Maximilian Schuster – Ludwig-Maximilian-Universität Munich M.S. Student (research Project)
2013-2017	Silvia Ortega – University of Barcelona Ph.D student Title: <i>Bottom-up Engineering of Thermoelectric Nanomaterials and Devices from Solution-Processed Nanoparticle Building Blocks</i> Advisors: <u>M. Ibáñez</u> , A. Cabot
2012-2016	Zhishan Luo – University of Barcelona Ph.D student Title: <i>Compositional engineering of colloidal nanoparticles for energy conversion</i> Advisors: <u>M. Ibáñez</u> , A. Cabot
2016	Roger Hasler – ETH Zürich M.S. student (Master thesis) Title: <i>Bottom-up approach to high performance thermoelectrics by nano-inclusions in a semiconductor matrix</i>
2016	Beatrice Kuster – ETH Zürich M.S. student (Master thesis) Title: <i>Synthesis of tin chalcogenide nanoparticles and their thermoelectric properties</i>
2015	Roger Hasler – ETH Zürich M.S. student (Semester project)

- 2014 Ferran Marín Esteban – University of Barcelona **M.S. student** (Master thesis)
Title: *Syntheses of Cu₂ZnSnS₄ – Novel nanoheterostructures for water splitting*
- 2013 Silvia Ortega – University of Barcelona **M.S. student** (Master thesis)
Title: *Bottom-up processed thermoelectric devices*

INVITED TALKS

- 2019 Feb Nanomaterials for Applications in Energy Technology; *Gordon Research Conference*, Ventura, USA
- 2018 Sep International Conference on Functional Nanomaterials and Nanodevices, Wien, Austria
- 2018 Jan Ludwig-Maximilians-University Munich, Department of Physics, Munich, Germany
- 2017 Nov University of Vienna, Department of Chemistry, Austria
- 2017 Sep International Conference on Functional Nanomaterials and Nanodevices, Budapest, Hungary
- 2017 Jun Bern University, Department of Chemistry, Switzerland
- 2017 Mar Trinity College Dublin, Department of Chemistry, Dublin, Ireland
- 2017 Mar University of Cambridge, Department of Chemistry, Cambridge, United Kingdom
- 2017 Feb Institute of Science and Technology (IST) Austria, Vienna, Austria
- 2016 Oct Partnership Council “*Manufacturing, Processes and Materials*” Meeting (ETH Zürich)
- 2016 Feb Department of Inorganic and Physical Chemistry, Ghent University, Ghent, Belgium
- 2015 Nov EMRS-Fall meeting 2015, University of Technology, Warsaw, Poland
- 2013 Dec Physical Chemistry Group, TU Dresden, Germany
- 2013 Nov Laboratory of Inorganic Chemistry, ETH Zürich, Switzerland
- 2013 Apr Department of Chemistry, University of Chicago, USA
- 2013 Apr Department of Chemistry, Northwestern University, USA
- 2012 Jun Materials Science and Engineering Department, Cornell University, USA
- 2012 Jan 1st Flash Talks Meeting, University of Barcelona, Spain
- 2011 Sep Thermoelectrics Group, Caltech Materials Science, USA
- 2010 Oct Department of Chemistry, University of Chicago, USA
- 2009 Dec Institute for Nanoscience and Cryogenics (INAC), CEA, France

FULL LIST OF PEER REVIEW PUBLICATIONS (04/09/2018)

56. Y. Zhang, Y. Liu, K. H. Lim, C. Xing, M. Li, T. Zhang, P. Tang, J. Arbiol, J. Llorca and K. M. Ng, **M. Ibáñez**, P. Guardia, M. Prato, D. Cadavid, A. Cabot; *Tin Diselenide Molecular Precursor for Solution-Processable Thermoelectric Materials*; **Angew. Chem. Int. Ed.** 2018, 57, 17063-17068
55. R. Nafria, Z. Luo, M. Ibáñez, S. Martí-Sánchez, X. Yu, M. Mata, J. Llorca, J. Arbiol, M. V. Kovalenko, A. Grabulosa, G. Muller, A. Cabot; *Growth of Au-Pd₂Sn Nanorods via Galvanic Replacement and their Catalytic Performance on Hydrogenation and Sonogashira Coupling Reactions*; **Langmuir**, 2018, 34,36, 10634-10643
54. T. Berestok, P. Guardia, M. Ibáñez, M. Meyns, M. Colombo, M. V. Kovalenko, F. Peiró, A. Cabot; *Electrostatic-Driven Gelation of Colloidal Nanocrystals*; **Langmuir**, 2018, 34, 9167–9174

53. D. M. Balazs, B. M. Matysiak, J. Momand, A. G. Shulga, M. Ibáñez, M. V. Kovalenko, B. J. Kooi, M. A. Loi; *Electron Mobility of $24 \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$ in PbSe Colloidal-Quantum-Dot Superlattices*; **Adv. Mater.** 2018, 1802265
52. Y. Liu, Y. Zhang, K. H. Lim, M. Ibáñez, S. Ortega, M. Li, J. David, S. Martí-Sánchez, K. M. Ng, J. Arbiol, M. V. Kovalenko, D. Cadavid, A. Cabot; *High Thermoelectric Performance in Crystallographically Textured n-Type $\text{Bi}_2\text{Te}_{3-x}\text{Se}_x$ Produced from Asymmetric Colloidal Nanocrystals*; **ACS Nano**, 2018, 12, 7174–7184
51. Y. Liu, Y. Zhang, S. Ortega, M. Ibáñez, K. H. Lim, A. Grau-Carbonell, S. Martí-Sánchez, K. M. Ng, J. Arbiol, M. V. Kovalenko, D. Cadavid, A. Cabot; *Crystallographically Textured Nanomaterials Produced from the Liquid Phase Sintering of $\text{Bi}_x\text{Sb}_{2-x}\text{Te}_3$ Nanocrystal Building Blocks*; **Nano Lett.** 2018; 18, 2557–2563
50. M. Ibáñez, R. Hasler, Y. Liu, O. Drobozan, O. Nazarenko, D. Cadavid, A. Cabot, M. V. Kovalenko; *Tuning p-Type Transport in Bottom-Up-Engineered Nanocrystalline Pb Chalcogenides using Alkali Metal Chalcogenides as Capping Ligands*; **Chem. Mater.** 2017, 29, 7093-7097
49. T. Berestok, P. Guardia, J. Blanco, R. Nafria, P. Torruella, L. Lopez-Conesa, S. Estrade, M. Ibáñez, J. De Roo, Z. Luo, D. Cadavid, J. C. Martins, M. V. Kovalenko, F. Peiró, A. Cabot; *Tuning Branching in Ceria Nanocrystals*; **Chem. Mater.** 2017, 29, 4418-4424
48. S. Ortega, M. Ibáñez, Y. Liu, Y. Zhang, M. V. Kovalenko, D. Cadavid; A. Cabot; *Bottom-up engineering of thermoelectric nanomaterials and devices from solution-processed nanoparticle building blocks*; **Chem. Rev. Soc.** , 2017, **46**, 3510-3528
47. C. Coughlan, M. Ibáñez, O. Dobrozhan, A. Singh, A. Cabot, K. Ryan; *Compound Copper Chalcogenide Nanocrystals*; **Chem. Rev.** 2017, 117, 9, 5865-6109
46. Y. Liu, G. García, S. Ortega, D. Cadavid, P. Palacios, J. Lu, M. Ibáñez, L. Xi, J. De Roo, A. M. López, S. Martí-Sánchez, I. Cabezas, M. Mata, Z. Luo, C. Dun, O. Dobrozhan, D. L. Carroll, W. Zhang, J. Martins, M. V. Kovalenko, J. Arbiol, G. Noriega, J. Song, P. Wahnón, A. Cabot; *Solution-Based Synthesis and Processing of Sn- and Bi-Doped Cu_3SbSe_4 Nanocrystals, Nanomaterials and Ring-Shaped Thermoelectric Generators*; **J. Mater Chem. A** 2017, 5, 2592-2602
45. Z. Luo, J. Lu, C. Flox, R. Nafria, A. Genç, J. Arbiol, J. Llorca, M. Ibáñez, J. R. Morante, A. Cabot; *Pd_2Sn [010] Nanorods as a Highly Active and Stable Ethanol Oxidation Catalyst*; **J. Mater Chem. A** 2016, 4 (42), 16706-16713
44. Z. Luo, S. Martí, G. Joshua, M. de la Mata, R. Nafria, P. Guardia, C. Boubeta, K. Simeonidis, J. Llorca, j. Arbiol, M. Ibáñez, A. Cabot; *$\text{Fe}_3\text{O}_4@ \text{NiFe}_x\text{O}_y$ Nanoparticles with Enhanced Electrocatalytic Properties for Oxygen Evolution in Carbonate Electrolyte*; **ACS Appl. Mater. Interfaces** 2016, 8 (43), 29461–29469
43. M. Dalmases, M. Ibáñez, P. Torruella, V. Fernández-Altale, L. López-Conesa, D. Cadavid, L. Piveteau, M. Nachtegaal, J. Llorca, M. L. Ruiz-González, S. Estradé, F. Peiró, M. V. Kovalenko, A. Cabot, A. Figuerola; *Noble Metal Ternary Chalcogenide Systems of Ag-Au-Se in the forms of Alloyed Nanoparticles and Colloidal Nanobeterostructures*; **Chem. Mater.** 2016, 28, 7017–7028
42. M. Ibáñez T. Berestok, O. Dobrozhan, A. LaLonde, V. Izquierdo-Roca, A. Shavel, A. Perez-Rodriguez, G. J. Snyder, A. Cabot; *Phosphonic acids aid composition adjustment in the synthesis of $\text{Cu}_{2+x}\text{Zn}_{1-x}\text{SnSe}_4$ -y nanoparticles*; **J. Nanopart. Res.** 2016, 18, 226.
41. Y. Liu, D. Cadavid, M. Ibáñez, S. Ortega, S. Martí-Sánchez, O. Dobrozhan, M. V. Kovalenko, J. Arbiol, A. Cabot, *Thermoelectric Properties of Metal-Semiconductor Nanocomposites Produced from Colloidal Nanocrystals: PbS-Cu and PbS-Sn* ; **Appl. Phys. Lett.** 2016, 4, 104813
40. M. Meyns, M. Perálvarez, A. Heuer-Jungemann, W. Hertog, M. Ibáñez, R. Nafria, A. Genç, J. Arbiol, M. Kovalenko, J. Carreras, A. Cabot, A. Kanaras; *Polymer-Enhanced Stability of Inorganic Perovskite*

- Nanocrystals and Their Application in Color Conversion LEDs*; **ACS Appl. Mater. Interfaces** 2016, 8, 19579–19586
39. Z. Luo, E. Irtem, M. Ibáñez, R. Nafria, S. Martí, A. Genç, M. Mata, Y. Liu, D. Cadavid, J. Llorca, J. Arbiol, T. Andreu, J. R. Morante, A. Cabot; *Mn₃O₄@CoMn₂O₄-Co_xO_y Nanoparticles as Active, Stable and Low-cost Bifunctional Electrocatalysts for Oxygen Reduction and Evolution Reactions*; **ACS Appl. Mater. Interfaces** 2016, 8 (27), 17435–17444
38. Y. Liu, D. Cadavid, M. Ibáñez, J. De Roo, S. Ortega, O. Dobrozhan, M. Kovalenko, A. Cabot; *AgSbSe₂ Nanocrystals: Synthesis, Electronic Doping and Bottom-Up Processing into Thermoelectric nanomaterials*; **J. Mater. Chem. A** 2016, 4, 4756–4762
37. F. Bertolotti, D. N. Dirin, M. Ibáñez, F. Krumeich, A. Cervellino, R. Frison, O. Voznyy, E. H. Sargent, M. V. Kovalenko, A. Guagliardi, N. Masciocchi; *Crystal Symmetry Breaking and Role of Vacancies in Colloidal Lead Chalcogenide Quantum Dots*; **Nat. Mater.** 2016, DOI:10.1038/nmat4661
36. R. Nafria, A. Genç, M. Ibáñez, J. Arbiol, P. Ramírez de la Piscina, N. Homs, A. Cabot; *Co-Cu Nanoparticles: Synthesis by Galvanic Replacement and Phase Rearrangement During Catalytic Activation*; **Langmuir** 2016, 32 (9), 2267–2276
35. M. Ibáñez, Z. Luo, A. Genç, L. Piveteau, S. Ortega, D. Cadavid, O. Dobrozhan, Y. Liu, M. Nachtegaal, M. Zebarjadi, J. Arbiol, M. V. Kovalenko, A. Cabot; *High-Performance Thermoelectric Nanocomposites from Nanocrystal Building Blocks*; **Nat. Commun.** 2016, 7:10766
34. J. De Roo, M. Ibáñez, P. Geiregat, G. Nedelcu, W. Walravens, J. Maes, J.C. Martins, I. Van Driessche, M.V. Kovalenko, Z. Hens. *Highly Dynamic Ligand Binding and Light Absorption Coefficient of Cesium Lead Bromide Perovskite Nanocrystals*; **ACS Nano** 2016, 10 (2), 2071–2081
33. A. Shavel, M. Ibáñez, Z. Luo, J. De Roo, A. Carrete, M. Dimitrievska, A. Genç, M. Meyns, A. Perez-Rodriguez, M. V. Kovalenko, J. Arbiol, A. Cabot; *Scalable Heating-Up Procedure to Synthesize Monodisperse Cu₂ZnSnS₄ Nanocrystals*; **Chem. Mater.** 2016, 28 (3), pp 720–726
32. M. Walter, K. V. Kravchyk, M. Ibáñez, M. V. Kovalenko; *Efficient and Inexpensive Sodium-Magnesium Hybrid Battery*; **Chem. Mater.** 2015, 27 (21), 7452–7458
31. X. Yu, J. Liu, A. Genç, M. Ibáñez, Z. Luo, A. Shavel, J. Arbiol, G. Zhang, Y. Zhang, A. Cabot; *Cu₂ZnSnS₄-Ag₂S Nanoscale p-n Heterostructures as Sensitizers for Photoelectrochemical Water Splitting*; **Langmuir** 2015, 31 (38), 10555–10561
30. X. Yu, X. An, A. Genç, M. Ibáñez, J. Arbiol, Y. Zhang, A. Cabot; *Cu₂ZnSnS₄-PtM (M = Co, Ni) Nano-Heterostructures for Photocatalytic Hydrogen Evolution*, **J. Phys. Chem. C**, 2015, 119 (38), 21882–21888
29. M. Ibáñez, R. Korkosz, Z. Luo, P. Riba, D. Cadavid, S. Ortega, A. Cabot and M. G. Kanatzidis; *Electron doping in bottom-up engineered thermoelectric nanomaterials through HCl-mediated ligand displacement*, **J. Am. Chem. Soc.** 2015, 137 (12), 4046–4049
28. Z. Luo, M. Ibáñez, A. M. Antolín, A. Genç, A. Shavel, S. Contreras, F. Medina, J. Arbiol and A. Cabot; *Size and Aspect Ratio Control of Pd₂Sn Nanorods and their Water Denitration Properties*, **Langmuir** 2015, 31 (13), 3952–3957
27. X. Yu, A. Shavel, X. An, Z. Luo, M. Ibáñez, A. Cabot; *Cu₂ZnSnS₄-Pt and Cu₂ZnSnS₄-Au Heterostructured Nanoparticles for Photocatalytic Water Splitting and Pollutant Degradation*; **J. Am. Chem. Soc.** 2014, 136, 9236–9239
26. X. Yu, X. An, A. Shavel, M. Ibáñez, A. Cabot; *Effect of Ga Content on the Photocatalytic Hydrogen Evolution of CuIn_{1-x}Ga_xS₂ Nanocrystals*; **J. Mater. Chem. A** 2014, 2, 12317–12322
25. R. R. Zamani, M. Ibáñez, M. Luysberg, N. García-Castelló, L. Houben, J. D. Prades, R. Dunin-Borkowski, J. R. Morante, A. Cabot, J. Arbiol; *Polarity-Driven Polytypic Branching in Cu-Based Quaternary Chalcogenide Nanostructures*; **ACS Nano**, 2014, 8 (3), 2290–2301
24. A. Fairbrother, V. Izquierdo, X. Fontané, M. Ibáñez, A. Cabot, E. Saucedo, A. Pérez-Rodríguez; *ZnS grain size effects on near-resonant Raman scattering: optical non-destructive grain size estimation*; **CrystEngComm** 2014, 16, 4120–4125

23. T. Hernández, M. Ibáñez, L. Gómez de la Fuente, F. J. Pérez-Alonso, M.A. Peña, Andreu Cabot, S. Rojas; *In Situ Study of the Ethanol Electrooxidation on Monodispersed Pt₃Sn Nanoparticles*; **ChemElectroChem** 2014, 1 (5), 885–895
22. W. Li, M. Ibáñez, D. Cadavid, R. Zamani, J. Rubio-García, S. Gorsse, J. R. Morante, J. Arbiol, A. Cabot; *Colloidal Synthesis and Functional Properties of Quaternary Cu-Based Semiconductors: Cu₂HgGeSe₄*; **J. Nanopart. Res.** 2014, 16, 2297
21. M. Ibáñez and A. Cabot, *All Change for Nanocrystals*, **Science** 2013, 340, 935
20. W. Li, M. Ibáñez, N. García-Castelló, S. Gorsse, D. Cadavid, J. D. Padres, J. Arbiol, A. Cabot; *I₂-II-IV-VI₄ Nanoparticles: The case of Cu₂HgSnSe₄*, **CrystEngComm** 2013, 15, 8966–8971
19. A. Carrete, A. Shavel, X. Fontaner, J. Montserrat, J. Fan, M. Ibáñez, E. Saucedo, A. Pérez-Rodríguez, A. Cabot. *Antimony-Based Ligand Exchange to Promote Crystallization in Spray-Deposited Cu₂ZnSnSe₄ solar cells*, **J. Am. Chem. Soc.** 2013, 135 (43), 15982–15985
18. W. Li, R. Zamani, P. Rivera_Gil, B. Pelaz, M. Ibáñez, D. Cadavid, A. Shavel, R. Alvarez-Puebla, W. Parak, J. Arbiol, A. Cabot, *CuTe Nanocrystals: Shape and Size Control, Plasmonic Properties, and Use as SERS Probes and Photothermal Agents*, **J. Am. Chem. Soc.** 2013, 135 (19), 7098–7101
17. W. Li, R. Zamani, M. Ibáñez, D. Cadavid, A. Shavel, J. Morante, J. Arbiol, A. Cabot; *Metal Ions to Control the Morphology of Semiconductor Nanoparticles: Copper Selenide Nanocubes*, **J. Am. Chem. Soc.** 2013, 135 (12), 4664–4667
16. D. Cadavid, M. Ibáñez, A. Shavel, O. J. Durá, M. A. López de la Torre, A. Cabot; *Organic Ligand Displacement by Metal Salts to Enhance Nanoparticle Functionality: Thermoelectric Properties of Ag₂Te*, **J. Mater. Chem. A** 2013, 1, 4864–4870
15. M. Ibáñez, R. Zamani, S. Gorsse, J. Fan, S. Ortega, D. Cadavid, J. Arbiol, J. R. Morante, A. Cabot; *Core-shell Nanoparticles as Building Blocks for the Bottom-up Production of Functional Nanocomposites: PbTe-PbS Thermoelectric Properties*, **ACS Nano** 2013, 7 (3), 2573–2586
14. D. Cadavid, M. Ibáñez, S. Gorsse, A. M. López, A. Cirera, J. R. Morante, A. Cabot; *Bottom-Up Processing of Thermoelectric Nanocomposites from Colloidal Nanocrystals Building Blocks: the Case of Ag₂Te-PbTe*, **J. Nanopart. Res.** 2012, 14:1328
13. M. Ibáñez, D. Cadavid, U. Anselmi-Tamburini, R. Zamani, S. Gorsse, W. Li, A. Shavel, A. M. López, J. Arbiol, J. R. Morante, A. Cabot; *Colloidal Synthesis and Thermoelectric Properties of Cu₂SnSe₃ Nanocrystals*, **J. Mater. Chem. A** 2013, 1 (4), 1421
12. M. Ibáñez, D. Cadavid, U. Anselmi-Tamburini, R. Zamani, S. Gorsse, W. Li, A. Shavel, A. M. López, J. Arbiol, J. R. Morante, A. Cabot; *Crystallographic Control at the Nanoscale to Enhance Functionality: Polytypic Cu₂GeSe₃ Nanoparticles as Thermoelectric Materials*, **Chem. Mater.** 2012, 24 (23), 4615–4622
11. J. Fan, R. Zamani, C. Fábrega, A. Shavel, C. Flox, M. Ibáñez, T. Andreu, A. M. López, J. Arbiol, J. R. Morante, A. Cabot; *Solution-Growth and Optoelectronic Performance of ZnO: Cl/TiO₂ and ZnO: Cl/Zn_xTiO_y/TiO₂ Core–Shell Nanowires with Tunable Shell Thickness*, **J. Phys. D: Appl. Phys.** 2012, 45, 415301
10. A. Shavel, D. Cadavid, M. Ibáñez, A. Carrete, A. Cabot; *Continuous Production of Cu₂ZnSnS₄ Nanocrystals in a Flow Reactor*, **J. Am. Chem. Soc.** 2012, 134 (3), 1438–1441
9. M. Ibáñez, R. Zamani, W. Li, A. Shavel, J. Arbiol, J. R. Morante, A. Cabot; *Extending the Nanocrystal Synthesis Control to Quaternary Compositions*, **Cryst. Growth Des.** 2012, 12, 1085–1090
8. M. Ibáñez, R. Zamani, A. LaLonde, D. Cadavid, W. Li, A. Shavel, J. Arbiol, J. R. Morante, S. Gorsse, G. J. Snyder, A. Cabot; *Cu₂ZnGeSe₄ Nanocrystals: Synthesis and Thermoelectric Properties*, **J. Am. Chem. Soc.** 2012, 134 (9), 4060–4063
7. M. Ibáñez, D. Cadavid, R. Zamani, N. García-Castelló, V. Izquierdo-Roca, W. Li, A. Fairbrother, J. D. Prades, A. Shavel, J. Arbiol, A. Pérez-Rodríguez, J. R. Morante, A. Cabot; *Composition Control and Thermoelectric Properties of Quaternary Chalcogenide Nanocrystals: The Case of Stannite Cu₂CdSnSe₄* **Chem. Mater.** 2012, 24 (3), 562–570

6. W. Li, A. Shavel, R. Guzman, J. Fan, D. Cadavid, M. Ibáñez, J. Arbiol, A. Cabot; *Morphology Evolution of $Cu_{2-x}S$ Nanoparticles: From Spheres to Dodecahedrons*, **Chem. Commun.** 2011, 47, 10332-10334
5. M. Ibáñez, J. Fan, W. Li, D. Cadavid, R. Nafria, A. Carrete, A. Cabot; *Means and Limits of Control of the Shell Parameters in Hollow Cadmium Chalcogenides obtained by the Kirkendall Effect*; **Chem. Mater.** 2011, 23 (12), 3095–3104
4. M. Ibáñez, P. Guardia, A. Shavel, D. Cadavid, J. Arbiol, J.R. Morante, A. Cabot; *Growth Kinetics of Asymmetric Bi_2S_3 Nanocrystals: Size Distribution Focusing in Nanorods*; **J. Phys. Chem. C** 2011, 115 (16), 7947–7955
3. A. Cabot, M. Ibáñez, P. Guardia, A. P. Alivisatos, *Reaction regimes on the Synthesis of Hollow Particles by the Kirkendall Effect*; **J. Am. Chem. Soc.** 2009, 131 (32), 11326–11328
2. D. Cadavid, M. Ibáñez, U. Anselmi-Tamburini, O. J. Durá, M. A. López de la Torre, A. Cabot, *Thermoelectric properties of bottom-up assembled $Bi_2S_{3-x}Te_x$ nanocomposites*; **Int. J. Nanotechnol.** 2014, 11, 9–11, 773-784
1. S. Ortega, M. Ibáñez, D. Cadavid, A. Cabot; *Bottom-Up Processing of PbTe-PbS Thermoelectric Nanocomposites*; **Int. J. Nanotechnol.** 2014, 11, 9–11, 955-970