CV date	14/11/2019

Part A. PERSONAL INFORMATION

First and Family name	Arturo Moncho Jordá		
Social Security, Passport, ID number	21663474G	Age	45
Researcher codes	WoS Researcher ID *(*)*	G-8395-2015	
	SCOPUS Author ID*(*)*	6603434773	
	Open Researcher and Contributor ID (ORCID) **	0000-0002-2001-2987	

(*) At least one of these is mandatory
(**) Mandatory

A.1. Current position

Name of University/Institution	Universidad de Granada		
Department	Física Aplicada		
Address and Country	Campus Fuentenueva s/n, 18071 / Facultad de Ciencias, Granada, Spain		
Phone number	+34 958241000 –EXT 20389	E-mail	moncho@ugr.es
Current position	Profesor Catedrático	From	2019
Key words	Nanoparticles; Colloids; Polymers; Complex fluids; Microgels; Binary mixtures; aggregation		

A.2. Education

PhD	University	Year
Doctor en Programa de Doctorado de Física Aplicada	Universidad de Granada	2001

A.3. JCR articles, h Index, thesis supervised…

My main research line is **Equilibrium and Non-equilibrium properties of Complex Fluids**. I have been the principal investigator (PI) of two national research projects: MAT2012-36270-C04-02 “Structure and interactions in soft nanoparticle systems (nanogels and liposomes)” (with a total amount of 29 JCR published articles, 5 book chapters and participation in 31 conferences) and FIS2016-80087-C2-1-P “Interactions and collective properties of nanogel/microgel-based soft matter systems of biotechnological interest” (still ongoing, with 17 papers and 20 conferences and 1 thesis defended). Both projects studied microgels as delivery systems. I supervised **4 thesis** with **European/international mention** and 11 Master Thesis.

I published papers in high impact factor journals as ACS Nano (impact factor 13.7), Phys. Rev. Lett. (7.62), COCIS (6.23) or Macromolecules (5.91). I published **3 book chapters and 55 articles, 42 in Q1 and 14 in D1**. My h-index is 19, with a total amount of 927 citations and a ratio citations/year of 82.2 in the last 5 years (JCR). I got 3 *sexenios* CNEAI (last in 2015).

Part B. CV SUMMARY *(max. 3500 characters, including spaces)*

I am **Full Professor** at the Department of Applied Physics of the University of Granada (UGR) since 2019. In 1997, after obtaining the Bachelor’s degree in Physics, I became member of the Biocolloid and Fluid Physics Group (UGR). Under financial support from a National fellowship, FPU (1998/2001), I got the PhD in Physics (December 2001). From April to September 2002 I worked as Assistant Lecturer in the Department of Physics at the University of Extremadura. Then, I became postdoc in the Centre for Computational Chemistry and the BP Institute (Cambridge, UK) for 1 year (October 2002-September 2003), funded by the Ramón Areces Foundation (Spain). In October 2003 I became Collaborating Professor in the Department of Applied Physics (UGR). In June 2005 I promoted to Contracted Lecturer and in October 2008 to Associate Professor. During this period I performed a 1-month stay at the Helmholtz Zentrum Berlin (Germany), a 1-week stay at the Freie Universität Berlin (Germany), and became awarded by the Fulbright Program to perform a stay in the SEAS (University of Harvard, USA) as a Senior Fellow during 6 months (February-July 2018). Very recently

(October 2019), I passed the competitive examination to be Full Professor. I have supervised 4 PhD students with European or international mention and 11 Master Thesis.
My research comprises diverse topics in the field of Colloidal Science. I have mainly used theoretical methods (theory of liquids, integral equations theory, equilibrium and non-equilibrium density functional theory for classical fluids) and computer simulations (Brownian Dynamics, Monte Carlo, Stochastic Rotation Dynamics) to investigate the equilibrium and non-equilibrium properties of soft matter systems: 1) Study of 2 and 3-dimensional aggregation, heteroaggregation and simultaneous sedimentation-aggregation, including the hydrodynamic effects. 2) Formation of colloidal structures in 2 and 3-dimensions. 3) Effective interactions, structure, phase behavior and interfacial properties of colloid-polymer and binary charged colloidal mixtures. 4) Swelling behavior, effective interactions and ionic permeation in charged microgel suspensions. Study of the uptake/release of biomolecules/drugs in microgel particles for Biomedical applications. My research work has involved collaborations with international scientists (Ard Louis, Jean-Pierre Hansen, Joachim Dzubiella, among others). I have participate in 54 conferences (1 plenary, 5 invited talks, and 12 talks). I was a member of the organizing committee in 3 meetings.

I have been the **principal investigator of two national research projects**: MAT2012-36270-C04-02 “Structure and interactions in soft nanoparticle systems (nanogels and liposomes)” and FIS2016-80087-C2-1-P “Interactions and collective properties of nanogel/microgel-based soft matter systems of biotechnological interest”, both focused on the investigation of microgels as transport and delivery systems. I also participated in other 7 projects, and performed a research collaboration with two private companies (OPERON S.A. and IKERLAT Polymers). I published scientific papers in high impact factor journals as ACS Nano (impact 13.7), Phys. Rev. Lett. (7.62), COCIS (6.23) or Macromolecules (5.91). In total, I published 3 book chapters and 53 articles, 40 in Q1 and 14 in D1. My h-index is 19, with a total amount of 904 citations and a ratio citations/year of 79.8 in the last 5 years (JCR). Finally, I got 3 *sexenios* CNEAI (last in 2015).

Part C. RELEVANT MERITS

C.1. Publications including books (from 2009) (* Corresponding author)

[1] A. Moncho-Jordá*, M. Quesada-Pérez, “*Crossover of the effective charge in ionic thermoresponsive hydrogel particles*“, Phys. Rev. E **100** (2019) 050602(R).

[2] I. Tagliaro, B. Di Credico, and **A. Moncho-Jordá***, “*Electrostatic depletion effects on the stability of colloidal dispersions of sepiolite and natural rubber latex*“, J. Colloid Interface Sci. (published online). DOI: 10.1016/j.jcis.2019.10.083. Impact factor: 6.3

[3] A. Moncho-Jordá*, A. Germán-Bellod, S. Angioletti-Uberti, I. Adroher-Benítez, and J. Dzubiella, “*Non-Equilibrium Uptake Kinetics of Molecular Cargo into Hollow Hydrogels Tuned by Electrosteric Interactions*“, ACS Nano **13** (2019) 1603. Impact factor: 13.9.

[4] M. Quesada-Pérez, J. A. Maroto-Centeno, A. Martín-Molina, and **A. Moncho-Jordá**, “*Direct determination of forces between charged nanogels through coarse-grained simulations*“, Physical Review E **97** (2018) 042608.

[5] C.J. Ojeda-Mendoza, **A. Moncho-Jordá***, P. González-Mozuelos, C. Haro-Pérez, and L. F. Rojas-Ochoa, “*Evidence of electrostatic-enhanced depletion attraction in the structural properties and phase behavior of binary charged colloidal suspensions*“, Soft Matter **14** (2018) 1355.

[6] L. Pérez-Mas, A. Martín-Molina, M. Quesada-Pérez, and **A. Moncho-Jordá***, “*Maximizing the absorption of small cosolutes inside neutral hydrogels: steric exclusion versus hydrophobic adhesion*“, Phys. Chem. Chem. Phys. **20** (2018) 2814. Impact factor: 3.567

[7] W.K. Kim, **A. Moncho-Jordá**, R. Roa, M. Kanduc, and J. Dzubiella, “*Cosolute partitioning in polymer networks: Effects of flexibility and volume transitions*“, Macromolecules **50** (2017) 6227. Impact factor: 5.835

[**8**] I. Adroher-Benítez, **A. Moncho-Jordá,** and G. Odriozola, "*Conformation change of an isotactic poly (N-isopropylacrylamide) membrane: Molecular dynamics*", J. Chem. Phys. **146** (2017) 194905.

[9] I. Adroher-Benítez, **A. Moncho-Jordá**, and J. Dzubiella, "*Sorption and Spatial Distribution of Protein Globules in Charged Hydrogel Particles*", Langmuir **33** (2017) 4567.

[10] I. Adroher-Benítez, A. Martín-Molina, S. Ahualli, M. Quesada-Pérez, G. Odriozola, and **A. Moncho-Jordá***, "*Competition between excluded-volume and electrostatic interactions for nanogel swelling: effects of the counterion valence and nanogel charge*", Phys. Chem. Chem. Phys. **19** (2017) 6838. Impact factor: 3.906

[11] J. Maldonado-Valderrama, T. del Castillo-Santaella, I. Adroher-Benítez, **A. Moncho-Jordá***, and A. Martín-Molina, "*Thermoresponsive microgels at the air–water interface: the impact of the swelling state on interfacial conformation*", Soft Matter **13** (2017) 230.

[12] A. Moncho-Jordá*, J. Dzubiella, "*Swelling of ionic microgel particles in the presence of excluded-volume interactions: a density functional approach*", Phys. Chem. Chem. Phys. **18** (2016) 5372. Impact factor: 4.123

[13] I. Adroher-Benítez, S. Ahualli, D. Bastos-González, J. Ramos, J. Forcada, and **A. Moncho-Jordá***, "*The Effect of Electrosteric Interactions on the Effective Charge of Thermoresponsive Ionic Microgels: Theory and Experiments*", J. Polym. Sci. Pt. B-Polym. Phys. **54** (2016) 2038.

[14] I. Adroher-Benítez, S. Ahualli, A. Martín-Molina, M. Quesada-Pérez, **A. Moncho-Jordá***, "*Role of Steric Interactions on the Ionic Permeation Inside Charged Microgels: Theory and Simulations*", Macromolecules **48** (2015) 4645. Impact factor 5.93

[15] A. Moncho-Jordá* and G. Odriozola, "*Wall-particle interactions and depletion forces in narrow slits*", Current Opinion in Colloid & Interface Science **20** (2015) 24. Impact factor: 6.4

[16] J. Callejas-Fernández, J. Ramos, J. Forcada, and **A. Moncho-Jordá**, "*On the scattered light by dilute aqueous dispersions of nanogel particles*", J. Colloid Interface Sci. **450** (2015) 310.

[17] C.A. Pérez, **A. Moncho-Jordá**, R. Hidalgo-Álvarez, and H. Casanova, "*A comparative study on the effect of hydrodynamic interactions in the non-sequential deposition of concentrated colloidal dispersions: stochastic rotation dynamics and Brownian dynamics simulations*", Mol. Phys. **113** (2015) 3587.

[18] A. Moncho-Jordá* and I. Adroher-Benítez "*Ion permeation inside microgel particles induced by specific interactions: from charge inversion to overcharging*", Soft Matter **10** (2014) 5810. Impact factor: 4.15

[19] BOOK CHAPTER. J. Ramos, M. Peláez-Fernández, J. Forcada, and **A. Moncho-Jordá**, "Nanogels for Drug Delivery: the Key Role of Nanogel-Drug Interactions" in RCS Nanoscience & Nanotechnology No. 34: SOFT NANOPARTICLES FOR BIOMEDICAL APPLICATIONS, pp. 133-156 (Royal Society of Chemistry, Cambridge, UK, 2014). ISBN: 978-1-84973-811-8.

[20] A. Moncho-Jordá*,"*Effective charge of ionic microgel particles in the swollen and collapsed states: The role of the steric microgel-ion repulsion*", J. Chem. Phys. **139** (2003) 064906. Impact factor: 3.12.

[21] A. Moncho-Jordá*, J. A. Anta, and J. Callejas-Fernández, "*Effective electrostatic interactions arising in core-shell charged microgel suspensions with added salt*", J. Chem. Phys. **138** (2013) 134902.

[22] G. Bautista-Carbajal, **A. Moncho-Jordá**, and G. Odriozola, "*Further details on the phase diagram of hard ellipsoids of revolution*", J. Chem. Phys. **138** (2013) 064501.

[23] C.A. Pérez, **A. Moncho-Jordá**, R. Hidalgo-Álvarez, and H. Casanova, "*Brownian dynamics simulation of monolayer formation by deposition of colloidal particles: A kinetic study at high bulk particle concentration*", Eur. Phys. J. E **35** (2012) 69.

[24] M. Peláez-Fernández, J. Callejas-Fernández, and **A. Moncho-Jordá**, "*Effective interaction in asymmetric charged binary mixtures: The non-monotonic behaviour with the colloidal charge*", Eur. Phys. J. E **35** (2012) 120.

[25] **A. Moncho-Jordá**, A. A. Louis, and J. T. Padding, "*How Péclet number affects microstructure and transient cluster aggregation in sedimenting colloidal suspensions*", J. Chem. Phys. **136** (2012) 064517.

[26] M. Peláez-Fernández, **A. Moncho-Jordá**, S. García-Jimeno, J. Estelrich, and J. Callejas-Fernández, "*Role of the electrostatic depletion attraction on the structure of charged liposome-polymer mixtures*", Phis. Rev. E **85** (2012) 051405.

[27] M. Peláez-Fernández, **A. Moncho-Jordá**, and J. Callejas-Fernández, "*Charged colloid-polymer mixtures: A study on electrostatic depletion attraction*", J. Chem. Phys. **134** (2011) 054905.

[28] **A. Moncho-Jordá***, A.A. Louis, J.T. Padding, "*Effects of Interparticle Attractions on Colloidal Sedimentation*", Physical Review Letters **104** (2010) 068301. Impact factor: 7.62. Paper selected as **Editor's Suggestion**.

[29] J.M. López-López, **A. Moncho-Jordá**, A.M. Puertas, A. Schmitt, R. Hidalgo-Álvarez, "*Multiple time scales and cluster formation mechanisms in charge-heteroaggregation processes* ", Soft Matter **6** (2010) 3568. Impact factor: 4.46

[30] M. Peláez-Fernández, **A. Moncho-Jordá**, and J. Callejas-Fernández, "*Structure of charged colloid-polymer mixtures*", Europhys. Lett. **90** (2010) 46005.

[31] J.M. López-López, A. Schmitt, **A. Moncho-Jordá**, R. Hidalgo-Álvarez, "*Electrostatic heteroaggregation regimes in colloidal suspensions*", Advances in Colloids and Interface Science **147-148** (2009) 186. Impact factor: 5.68

C.2. Research projects and grants (since 2009)

[1] **Project** FIS2016-80087-C2-1-P "*Interacciones y propiedades colectivas de sistemas de materia blanda basados en nanogeles/microgeles de interés en Nanotecnología*" Ministerio de Economía y Competitividad. (2017-2019). 48.400 €. **Principal Investigator (IP) and Coordinator**.

[2] **Project** MAT2012-36270-C04-02 "*Estructura e interacciones en sistemas de nanopartículas blandas (nanogeles y liposomas)*" Ministerio de Economía y Competitividad (2013-2015) 93.600 €. **Principal Investigator (IP)**.

[3] **Fulbright Scholarship Program** for Senior Investigators (John A. APulson School of Engineering and Applied Sciences, University of Harvard, USA (February-July 2018).

[4] **Grant** PPVS2018-08, "*Visiting Scholar. Física Aplicada*" Plan Propio de la Universidad de Granada (2019-2020) 8.000 €.

[5] **Project** MAT2009-13155-C04-02 "*Materiales vítreos y mezclas binarias formados con nanogeles y nanopartículas blandas*" Ministerio de Ciencia e Innovación (2010-2013) 108.900 €. Team member.

[6] **Project** P07-FQM-02517 "*Fluidos Complejos Confinados en Interfases Curvas*" Consejería de Innovación, Ciencia y Empresa. Proyectos de Excelencia, Junta de Andalucía (2008-2011) 196.068 €. Team member.

[7] **Project** CDTI IDI-200700509 "*Diseño de reactivos por inmunocromatografía para cuantificación y aumento de la sensibilidad*" Ministerio de Industria, Turismo y Comercio. Centro para el Desarrollo Tecnológico e Industrial (2007-2009) 139.200 €. Team member.

[8] **Project** MAT2006-12918-C05-01 "*Propiedades Eléctricas, Estructurales y Dinámicas de Dispersiones de Nanopartículas con Aplicaciones Biotecnológicas*" Ministerio de Ciencia e Innovación (2006-2009) 160.930 €. Team member.

[9] **Project** P05-FQM-392 "*Estructuras y Propiedades de Sistemas Coloidales en 2 y 3D*" Consejería de Innovación, Ciencia y Empresa. Proyectos de Excelencia, Junta de Andalucía (2006-2009) 154.800€. Team member.

C.3. Formation activities (thesis supervised) (since 2009)

[1] M.A. Peláez-Fernández, "*Structure and dynamics of charged colloid-polymer mixtures*", 2011. Articles: 4. Book chapters: 1. **FPI 2008**. Excellent Cum Laude**. European Mention.**

[2] I. Adroher-Benítez, "*Interactions involved in the permeation and distribution of ions and biomolecules inside charged hydrogels*", 2017. Articles: 8. Excellent**. International Mention.**