

**Part A. PERSONAL INFORMATION**

**CV date**

1/3/2021

First and Family name	Arturo Moncho Jordá		
Social Security, Passport, ID number	21663474G	Age	46
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	<a href="mailto:moncho@ugr.es">moncho@ugr.es</a>
Current position	Profesor Catedrático	From	2019
Key words	Nanoparticles; Colloids; Polymers; Complex fluids; Microgels; Binary mixtures; aggregation		

**A.2. Education**

PhD	University	Year
Doctor in Physics	University de Granada	2001

**A.3. General indicators of quality of scientific production**

- **Sexenios CNEAI: 3** (last in 2015). 5 regional complements (maximum possible).
- **Principal investigator** in 3 research projects (2 national and 1 local). They are:
  - 1) **MAT2012-36270-C04-02** "Structure and interactions in soft nanoparticle systems (nanogels and liposomes)", with a total number of 29 JCR published articles, 5 book chapters and participation in 31 conferences.
  - 2) **FIS2016-80087-C2-1-P** "Interactions and collective properties of nanogel/microgel-based soft matter systems of biotechnological interest", with a total number of 26 JCR publications, 21 contributions to conferences and 1 PhD Thesis defended. Both projects studied microgels as delivery systems
  - 3) **PPVS2018-08** "Visiting Scholar Física Aplicada", funded by the "Plan Propio de la Universidad de Granada".
- Member of the research team in other 7 Research Projects: 4 national, 2 regional and 1 local.
- **Supervision of two thesis** with **European/international mention** (2011 y 2017) since 2010. Supervision of 13 Master Thesis.
- Total number of articles in JCR: **57 (44 in Q1, 16 in D1)**. Publication in high impact factor journals such as ACS Nano (impact factor 14.58), Phys. Rev. Lett. (8.38), J. of Colloid Interface Sci. (impact factor 7.49), Curr. Opin. Colloid Interface Sci. (6.23) or Macromolecules (5.91).
- **H-index is 20**, with a total amount of 1048 cites, and a ratio Cites/year of 92.6 in the last 5 years. Source: Web of Science
- Book chapters: 3 international



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

I am **Full Professor** since 2019, and **Head of the Department of Applied Physics** of the University of Granada (UGR) since 2020. I belong to the Interuniversity Institute Carlos I for Theoretical and Computational Physics since 2016. 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 (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, until 2019. 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). I have supervised 4 PhD students with European or international mention and 13 Master Thesis.

My research comprises diverse topics in **Equilibrium and Non-equilibrium properties of Complex Fluids**. I have mainly used theoretical methods (theory of liquids, integral equations, 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) Aggregation, heteroaggregation and simultaneous sedimentation-aggregation. 2) Formation of colloidal structures. 3) Effective interactions, structure, phase behavior and interfacial properties of colloid-polymer and binary charged colloidal mixtures. 4) Effective interactions and ionic permeation in charged microgel suspensions. 5) Uptake/release of biomolecules/drugs in microgel particles for Biomedical applications. 6) Non-equilibrium properties of active soft matter systems. My research work has involved collaborations with international scientists (Ard Louis, Jean-Pierre Hansen, Joachim Dzubiella, among others).

I published 57 scientific articles in international journals (44 in Q1, 16 in D1). Some of them were published in high impact factor journals such as ACS Nano (impact factor 14.58), Phys. Rev. Lett. (8.38), J. of Colloid Interface Sci. (7.49), Curr. Opin. Colloid Interface Sci. (6.23) or Macromolecules (5.91). I have participate in 54 conferences (1 plenary, 5 invited talks, and 12 talks). I was 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 study of microgels as transport and delivery systems. I am **principal investigator** of a project "Visiting Scholar" funded by the UGR, and participated in other 7 research projects, and collaborated with two private companies (OPERON S.A. and IKERLAT Polymers).

## Part C. RELEVANT MERITS

### C.1. Selected Publications (since 2010) (\* Corresponding author)

[1] **A. Moncho-Jordá\***, A.B. Jódar-Reyes, M. Kanduc, and G. Odriozola\*, "Scaling Laws in the Diffusive Release of Neutral Cargo from Hollow Hydrogel Nanoparticles: Paclitaxel-Loaded Poly(4-vinylpyridine)", ACS Nano **14** (2020) 15227-15240. Impact factor: 14.6

[2] **A. Moncho-Jordá** and J. Dzubiella, "Controlling the microstructure and phase behavior of confined soft colloids by active interaction switching", Phys. Rev. Lett. **125** (2020) 078001, 1-6. Impact factor: 8.39

- [3] 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.* **560** (2020) 606-617. Impact factor: 7.49
- [4] **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) 1603-1616. Impact factor: 14.6
- [5] 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) 2814-2825. Impact factor: 3.567
- [6] 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) 6227-6237. Impact factor: 5.835
- [7] **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) 5372-5385. Impact factor: 4.123
- [8] 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) 4645-4656. Impact factor 5.93
- [9] **A. Moncho-Jordá\*** and G. Odriozola, “Wall-particle interactions and depletion forces in narrow slits”, *Current Opinion in Colloid & Interface Science* **20** (2015) 24-31. Impact factor: 6.4
- [10] **A. Moncho-Jordá\***, A.A. Louis, J.T. Padding, “Effects of Interparticle Attractions on Colloidal Sedimentation”, *Physical Review Letters* **104** (2010) 068301, 1-4. Impact factor: 7.62. Paper selected as **Editor’s Suggestion**.

## C.2. Research projects and grants (since 2010)

- [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] **Project** “Visiting Scholar. Física Aplicada”, PPVS2018-08, Plan Propio de la Universidad de Granada (2019-2021) 80000 €. **Principal Investigator (IP)**.
- [4] **Fulbright Scholarship Program** for Senior Investigators (John A. APulson School of Engineering and Applied Sciences, University of Harvard, USA (February-July 2018)).
- [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.

## C.3. Books chapters (since 2010)

J. Ramos, M. Peláez-Fernández, J. Forcada, **A. Moncho-Jordá**, “Nanogels for Drug Delivery: the Key Role of Nanogel-Drug Interactions”, *Soft Nanoparticles for Biomedical Applications*, Vol 34 de RSC Nanoscience & Nanotechnology, editorial The Royal Society of Chemistry, Cambridge, Reino Unido, 2014. Págs: 133-156. ISBN: 978-1-84973-811-8

#### C.4. Formation activities (thesis supervised) (since 2010)

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

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

#### Thesis in progress:

Héctor Allan Pérez-Ramírez “*Estudio de las propiedades de transporte de co-solutos en hidrogeles termoresponsivos mediante simulaciones computacionales y la teoría del funcional de la densidad dinámico*” Universidad Autónoma Metropolitana-Azcapotzalco (México).

María Pedrosa Bustos, “Membranas celulares en películas Langmuir: plataforma avanzada en nanomedicina anticancerígena” **FPU 2020**, Universidad de Granada

#### C.5. Organization of conferences (since 2010)

I was part of the organizing committee in:

**[1]** Congreso: II International Soft Matter Conference

Lugar: Granada      Date: 5/7/2010 - 8/7/2010      Number of attendants 585

**[2]** Congreso: Third Workshop on Advances in Colloidal Materials

Lugar: Granada      Fecha: del 25/10/2013      Number of attendants: 63

#### C.6. Evaluation of scientific projects

I am evaluator of ANEP scientific projects since 2017.

#### C.7. Refere of international scientific journals

Physical Review Letters, ACS Nano, Macromolecules, Journal of Colloid and Interface Science, Current Opinion in Colloid and Interface Science, Physical Chemistry Chemical Physics, Soft Matter, Langmuir, Journal of Chemical Physics, Nanoscience and Nanotechnology, Physical Review B, Physical Review E, Gels, Polymers, Colloid and Polymer Science, Applied Sciences, Journal of Molecular Liquids, Journal of Physical Chemistry.