

Part A. PERSONAL INFORMATION

CV date

14 November 2019

First and Family name	Félix Carrique Fernández		
Social Security, Passport, ID number		Age	56
Researcher codes	WoS Researcher ID (*)	G-2447-2016	
	SCOPUS Author ID(*)	6701320794	
	Open Researcher and Contributor ID (ORCID) **	0000-0001-6098-4353	

(*) At least one of these is mandatory

(**) Mandatory

A.1. Current position

Name of University/Institution	University of Málaga		
Department	Applied Physics I		
Address and Country	Faculty of Sciences, University of Málaga, 29071-Málaga, Spain		
Phone number	++34952131923	E-mail	carrique@uma.es
Current position	Professor of Applied Physics	From	June 2012
Key words	Electrokinetics of nanoparticle systems		

A.2. Education

PhD	University	Year
Physics	University of Granada, Spain	1993

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

a) total number of citations: 1177
b) average number of citations during the last five years: $310/5=62$
c) total number of publications (69), in the first quartile (Q1): 46
d) total number of publications (69), in the first decile (D1): 1
d) h-index: 21
e) Thesis supervised: 3
f) number of research productivity complements (sexenios): 5

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

I got my degree in Physics at the University of Granada in 1988. In 1989, I got a Master Degree in Physics (Tesina de Licenciatura) at the University of Granada concerning the stability and interaction energy between particles in dilute suspensions. I got the first award of the Spanish Company of Penicillin and Antibiotics (CEPA) in the National Scientific Contest of 1990 for energetic studies about the stability of pharmaceutical suspensions. I got my PhD in Physics in 1993 at the University of Granada with a work entitled: "Analysis of the conductivity and dielectric properties of suspensions. Comparison between experimental results and theoretical predictions" which deserved the Extraordinary Award of the Doctorate in Applied Physics at the University of Granada in 1993. My recent research areas have been:

- The electrokinetics of concentrated suspensions of nanoparticles in ionic media based on cell models.
- The generalization of the standard model of the electroviscous effect of dilute suspensions with dynamic double layers, and its generalization for concentrated suspensions in ionic media.
- The electrokinetic of suspensions of nanoparticles with finite ion size effects.
- Non-equilibrium effects in electrokinetics and rheology of suspensions of nanoparticles.
- The electrokinetics of non-aqueous suspensions of nanoparticles.
- Theoretical modelization of realistic concentrated suspensions in aqueous media.

I have supervised three Doctoral Thesis: one at the University of Granada with International Doctorate Mention and maximum qualification (Cum Laude), and two at the University of



Málaga with maximum qualification (Cum Laude) and one with the European Doctorate Mention.

I have been the principal investigator of two National Projects: FIS2007-62737 (MEC) and FIS2010-18972 (MICINN), and the principal investigator of one Excellence Project of the Junta de Andalucía P08-FQM-3779 on the Electrokinetics and Rheology of Suspensions of Nanoparticles.

I have participated as a researcher in 14 other Research Projects: DGICIT, CICIT, INTAS (EUROPEAN UNION), INTEGRATED ACTIONS (SPAIN-ITALIAN), MCyT, MEC, MICINN, RAMÓN ARECES FOUNDATION, etc.

I have also:

-69 research articles in the Science Citation Index.

-87 communications in International Congresses.

In the near future we will start working on the simulation research of microfluidics with special interest in lab on a chip micro-devices.

Part C. RELEVANT MERITS

C.1. Publications (including books)

1. AUTHORS: A. V. Delgado, F. Carrique, R. Roa, E. Ruiz-Reina

YEAR: 2016

TITLE: RECENT DEVELOPMENTS IN ELECTROKINETICS OF SALT-FREE CONCENTRATED SUSPENSIONS

NAME JOURNAL: Current Opinion in Colloid & Interface Sci.

VOLUME: 24

PAGES: 32-43

IMPACT FACTOR: 6,136

RANKING POSITION: 25/146 (Q1) (CHEMISTRY, PHYSICAL)

2. AUTHORS: F. Carrique, E. Ruiz-Reina, R. Roa, F. J. Arroyo, A. V. Delgado

YEAR: 2015

TITLE: GENERAL ELECTROKINETIC MODEL FOR CONCENTRATED SUSPENSIONS IN AQUEOUS ELECTROLYTE SOLUTIONS: ELECTROPHORETIC MOBILITY AND ELECTRICAL CONDUCTIVITY IN STATIC ELECTRIC FIELDS

NAME JOURNAL: J. Colloid Interface Sci.

VOLUME: 455

PAGES: 46-54

IMPACT FACTOR: 3,782

RANKING POSITION: 41/144 (Q2) (CHEMISTRY, PHYSICAL)

3. AUTHORS: E. Ruiz-Reina, F. Carrique, L. Lechuga

YEAR: 2014

TITLE: DC ELECTROPHORESIS AND VISCOSITY OF SALT FREE CONCENTRATED SUSPENSIONS: NON EQUILIBRIUM DISSOCIATION-ASSOCIATION PROCESSES

NAME JOURNAL: J. Colloid Interface Sci.

VOLUME: 417

PAGES: 60-65

IMPACT FACTOR 2014: 3,368

RANKING POSITION: 42/139 (Q2) (CHEMISTRY, PHYSICAL)

4. AUTHORS: F. Carrique, E. Ruiz-Reina, L. Lechuga, F. J. Arroyo, A. V. Delgado

YEAR: 2013

TITLE: EFFECTS OF NON-EQUILIBRIUM ASSOCIATION-DISSOCIATION PROCESSES IN THE DYNAMIC ELECTROPHORETIC MOBILITY AND DIELECTRIC RESPONSE OF REALISTIC SALT-FREE CONCENTRATED SUSPENSIONS

NAME JOURNAL: Adv. Colloid Interface Sci.

VOLUME: 201-202

PAGES: 55-67



IMPACT FACTOR 2013: 8,636
RANKING POSITION: 12/136 (D1) (CHEMISTRY, PHYSICAL)

5. AUTHORS: P. J. Beltramo, R. Roa, F. Carrique, E. M. Furst
YEAR: 2013
TITLE: DIELECTRIC SPECTROSCOPY OF CONCENTRATED COLLOIDAL SUSPENSIONS
NAME JOURNAL: J. Colloid Interface Sci.
VOLUME: 408
PAGES: 54-58
IMPACT FACTOR 2013: 3,552
RANKING POSITION: 38/136 (Q2) (CHEMISTRY, PHYSICAL)

6. AUTHORS: R. Roa, F. Carrique, E. Ruiz-Reina
YEAR: 2012
TITLE: ION SIZE EFFECTS ON THE ELECTROKINETICS OF SALT-FREE CONCENTRATED SUSPENSIONS IN AC FIELDS
NAME JOURNAL: J. Colloid Interface Sci.
VOLUME: 387
PAGES: 153-161
IMPACT FACTOR 2012: 3,172
RANKING POSITION: 44/135 (Q2) (CHEMISTRY, PHYSICAL)

7. AUTHORS: R. Roa, F. Carrique, E. Ruiz-Reina
YEAR: 2011
TITLE: DC ELECTROKINETICS FOR SPHERICAL PARTICLES IN SALT-FREE CONCENTRATED SUSPENSIONS INCLUDING ION SIZE EFFECTS
NAME JOURNAL: Phys. Chem. Chem. Phys.
VOLUME: 13
PAGES: 19437-19448
IMPACT FACTOR 2013: 3,573
RANKING POSITION: 5/33 (Q1) (PHYSICS, ATOMIC, MOLECULAR & CHEMICAL)

8. AUTHORS: F. Carrique, E. Ruiz-Reina
YEAR: 2009
TITLE: EFFECTS OF WATER DISSOCIATION AND CO₂ CONTAMINATION ON THE ELECTROPHORETIC MOBILITY OF A SPHERICAL PARTICLE IN AQUEOUS SALT-FREE CONCENTRATED SUSPENSIONS
NAME JOURNAL: J. Phys. Chem. B
VOLUME: 113
PAGES: 8613-8625
IMPACT FACTOR 2009: 3,471
RANKING POSITION: 32/120 (Q2) (CHEMISTRY, PHYSICAL)

9. AUTHORS: S. Ahualli, M. L. Jiménez, F. Carrique, A. V. Delgado
YEAR: 2009
TITLE: AC ELECTROKINETICS OF CONCENTRATED SUSPENSIONS OF SOFT PARTICLES
NAME JOURNAL: Langmuir
VOLUME: 25
PAGES: 1986-1997
IMPACT FACTOR 2009: 3,898
RANKING POSITION: 26/120 (Q1) (CHEMISTRY, PHYSICAL)

C.2. Research projects and grants

1. REFERENCE: FIS2013-47666-C3-3-R

TITLE: THEORETICAL MODELS OF THE ELECTRICAL PROPERTIES OF SOLID/LIQUID INTERFACES. APPLICATION TO THE OBTENTION OF ELECTRIC ENERGY BY SALINITY INTERCHANGE.

FUNDING BODY: Ministerio de Economía y Competitividad

PRINCIPAL INVESTIGATOR SUBPROJECT: Dr. Emilio Ruiz Reina, University of Málaga, Spain.

DATE OF START: January 2014

END of the PROJECT: December 2016 (extended December 2017)

AMOUNT: 22.000 €

TYPE OF PARTICIPATION: Researcher

2. REFERENCE: FIS2010-18972

TITLE: BEYOND THE STANDARD ELECTROKINETIC MODELS IN ELECTROKINETICS AND RHEOLOGY OF CONCENTRATED SUSPENSIONS OF NANOPARTICLES. DEVELOPMENT OF GENERAL NON-EQUILIBRIUM MODELS.

FUNDING BODY: Ministerio de Ciencia e Innovación

PRINCIPAL INVESTIGATOR: Dr. Félix Carrique Fernández, University of Málaga, Spain.

DATE OF START: January 2011

END of the PROJECT: December 2013

AMOUNT: 45.000 €

TYPE OF PARTICIPATION: Principal Investigator

3. REFERENCE: P08-FQM-3779

TITLE: DEVELOPMENT OF NEW ELECTROKINETIC AND RHEOLOGICAL CELL MODELS FOR CONCENTRATED SUSPENSIONS OF NANOPARTICLES IN SALT-FREE MEDIA WITH FINITE ION SIZE CORRECTIONS.

FUNDING BODY: Proyecto de Excelencia de la Junta de Andalucía, Spain.

PRINCIPAL INVESTIGATOR: Dr. Félix Carrique Fernández, University of Málaga, Spain.

DATE OF START: January 13th, 2009

END of the PROJECT: January 12th 2013 (extended March 30th 2014)

AMOUNT: 142.923,60 €

TYPE OF PARTICIPATION: Principal Investigator

4. REFERENCE: FIS2007-62737

TITLE: THEORETICAL MODELIZATION OF ELECTROKINETIC TRANSPORT PHENOMENA AND RHEOLOGICAL PROPERTIES OF CONCENTRATED SUSPENSIONS IN DEIONIZED MEDIA.

FUNDING BODY: Ministerio de Educación y Ciencia, Spain.

PRINCIPAL INVESTIGATOR: Dr. Félix Carrique Fernández, University of Málaga, Spain.

DATE OF START: October 2007

END of the PROJECT: September 2010

AMOUNT: 40.000 €

TYPE OF PARTICIPATION: Principal Investigator

5. REFERENCE: P05-FQM-410

TITLE: NANOCOMPOUND FLUIDS WITH VISCOELASTIC PROPERTIES CONTROLLED BY ELECTRIC AND MAGNETIC FIELDS. ELECTROKINETIC AND RHEOLOGICAL CELL MODELS FOR CONCENTRATED SUSPENSIONS OF NANOPARTICLES IN SALT-FREE MEDIA WITH FINITE ION SIZE CORRECTIONS.

FUNDING BODY: Proyecto de Excelencia de la Junta de Andalucía, Spain.

PRINCIPAL INVESTIGATOR: Dr. Ángel V. Delgado Mora, University of Granada, Spain.

DATE OF START: January 26th 2006

END of the PROJECT: January 25th 2009

AMOUNT: 236.999,90 €

TYPE OF PARTICIPATION: Researcher