

CV date	18/10/2021
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Part A. PERSONAL INFORMATION

First and Family name	JUAN MANUEL FERNÁNDEZ ROMERO		
Social Security, Passport, ID number	██████████	Age	██
Researcher codes	WoS Researcher ID (*)	H-2300-2015	
	SCOPUS Author ID(*)	7004-169922	
	Open Researcher and Contributor ID (ORCID) **	0000-0001-8443-1358	

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

A.1. Current position

Name of University/Institution	UNIVERSITY OF CÓRDOBA		
Department	ANALYTICAL CHEMISTRY		
Address and Country	Marie Curie Annex Building 2nd floor, Campus of Rabanales, 14071-Córdoba (SPAIN)		
Phone number	34-957218645	E-mail	galferoj@uco.es
Current position	Full Professor in Analytical Chemistry	From	29/11/2013
Key words	Nanotechnology (nanoparticles and liposomes), Microfluidic systems, (bio)sensors, Bioanalytical Application, Luminescent analysis, Chromatographic and non-chromatographic separation /determination systems		

A.2. Education

PhD	University	Year
<i>Degree in Pharmacy</i>	University of Seville	1980
<i>Specialist in Clinical Analysis</i>	University of Granada	1989
<i>PhD in Chemistry</i>	University of Córdoba	1991

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

Six-year research periods (CNEAI): 5 (1989-2016) out of 5 possible

Supervised Doctoral Thesis (2011-2021): 3 Ph.D. defended (3 with European/international mention) and 1 in actual execution (expected Ph.D. defense dates third semester of 2021).

Total publications (1987 – 2021): 115. Articles (JCR): 103 (86% Q1), Citations: 1371, without auto-citing:1257. Citation/year: 40.3, h-index: 21. Recent publication (period 2011 – 2021):173, without auto-citing:140. Citation/year: 17.3, h₁₀-index: 9. (Source WoS, 2021).

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

Juan Manuel Fernández Romero is Full Professor at the Department of Analytical Chemistry (University of Córdoba), since 29 November 2013. He obtained her Degree in Pharmacy (Seville University, 1980), Specialist in Clinical Analysis (Granada University, R.D. 27708/82, 1989) and PhD in Chemistry (Córdoba University, 1991). He has also been associated (1993-1999) and assistant professor (2000-2013). He has co-authored 103 research articles in JCR journals (1371 citations, h-index 21 (WoS, 2021)). He has published eight book chapters in international and national publishers. He has presented 70 communications in national and international scientific meetings under different formats, and 4 National and International research stays. He has collaborated as researcher in 25 European, national, and regional research projects, international integrated actions, and infrastructure aids. Participate as principal investigator of two research project developments in the framework of FEDER/UCO/JJAA program.

With respect to education, he has taught in the Fine Chemistry Doctoral Program with quality mention (MCD2003-0028) and excellence distinction (MEE2011-0109) since the academic year of 1999, also in the Master of Advanced Fine Chemistry, with excellence distinction (MCD2006-00377) since the academic year 1999-2013, and in the Inter-University Master of Chemistry since 2013. He has also



taught in the Erasmus Mundus in Forensic Sciences from the academic years between 2011-2014. He has co-supervised 7 Doctoral Thesis (3 with the European/International mention) and other in actual execution, also has supervised 9 FMT, and 13 FUT.

In the context of transference of knowledge, he has participated as researcher in the transference of knowledge to External Institutions. Also, has co-authored two invention patents (without exploiting).

Concerning assessment activities, he has participated in the follow commissions: Doctoral Program Evaluation (2000-2007), Academic and Quality assurance in the Master "Erasmus Mundus" in Forensic Sciences (2000-2007). He also has participated as External Evaluator for proposals submitted to 2017 to the FONDECYT of the Chilean CONICYT. He has a member of the Evaluation Commission of Experimental Sciences in the DOCENTIA-UCO program since 2017. He also participates in the "EEES adaptation pilot programs" in the UCO-Science Commission (2007-2009). He is a member of the commission of biochemistry (since 2009). Since 19th April 2021 is member of the A3-Chemistry Accreditation Commission of the Academia Programs (ANECA) of the Spanish University Ministry.

During his research activity, he has been a member of three research groups. He is responsible for the Research Group FQM-303 since 2016. The research activity supposed the development and creation of different research lines. Some of these are: "Development of automatic analytical methodologies", "Design of (bio) catalytic sensors and immunosensors" "Analytical Applicability of the Laser ", "Advanced luminescent techniques coupled with continuous analysis systems, and rapid kinetics", "Nanotechnological applications in analytical chemistry, concerning the synthesis and uses of hybrid nanoparticles and liposomes in dynamic (conventional and microfluidics) systems" and "Development of separative/determinative analytical microfluidic systems". The participation in these research lines has allowed integrated training in topics directly related to the current study aimed at a nanotechnological development through the use of new techniques for the manufacture of nano/bio(materials) and analysis systems for the monitoring of problems in agri-food, environmental, biochemical, pharmaceutical and forensic areas.

Part C. RELEVANT MERITS

C.1. Publications (including books)

Articles in journals

- 1) Development of an aptamer-based SPR-biosensor for the determination of kanamycin residues in foods. Écija-Arenas, Á., Kirchner, E.M., Hirsch, T., Fernández-Romero, J.M. (2021) *Analytica Chimica Acta*, 1169, 338631. <https://doi.org/10.1016/j.aca.2021.338631>. (1citation).
- 2) Usefulness of Hybrid Magnetoliposomes for Aminoglycoside Antibiotic Residues Determination in Food Using an Integrated Microfluidic System with Fluorometric Detection. Écija-Arenas, Á., Román-Pizarro, V., Fernández-Romero, J.M. (2021). *Journal of Agricultural and Food Chemistry*, 69, 6888-6896. DOI: 10.1021/acs.jafc.1c01571. (0 citation).
- 3) Luminescence continuous flow system for monitoring the efficiency of hybrid liposomes separation using multiphase density gradient centrifugation, Écija-Arenas, Á., Román-Pizarro, V., Fernández-Romero, J.M. *Talanta*. 222 (2021)121532 DOI: 10.1016/j.talanta.2020.121532. (0 citation).
- 4) 2) Integration of a microfluidic system into a conventional luminescence detector using a 3D printed alignment device, Écija-Arenas, Á., Román-Pizarro, V., Fernández-Romero, J.M, *Microchimica Acta*. 187 (2020) 620- 630 DOI: 10.1007/s00604-020-04597-w. (0 citation).
- 5) Separation and characterization of liposomes using asymmetric flow field-flow fractionation with online multi-angle light scattering detection. Écija-Arenas, Á., Román-Pizarro, V., Fernández-Romero, J.M. (2021) *Journal of Chromatography A*, 1636, 461798, 1-8. <https://doi.org/10.1016/j.chroma.2020.461798>. (2 citation)
- 6) Applicability of Fluorescent Hybrid Magnetoliposomes for the Determination of Reactive Oxygen Compounds in Food. Román-Pizarro, V., Gomez-Hens, A., Fernández-Romero, J.M. *Food Analytical Methods*. 11 (2018) 2376-2383 DOI: 10.1007/s12161-018-1220-3 (4 citation).
- 7) Automatic determination of coenzyme Q10 in food using cresyl violet encapsulated into magnetoliposomes. Román-Pizarro, V., Fernández-Romero, J.M., Gomez-Hens, A. *Food Chemistry* 221 (2017) 864-870 DOI: 10.1016/j.foodchem.2016.11.085 (9 citation).
- 8) Separation and purification of hydrophobic magnetite-gold hybrid nanoparticles by multiphase density gradient centrifugation, Écija-Arenas, Á., Román-Pizarro, V., Fernández-Romero, J.M., Gómez-Hens, A., (*Microchimica Acta*, 183 (2016) 2005-2012. DOI: 10.1007/s00604-016-1838-z (7 citation).



- 9) Fluorometric determination of alkaline phosphatase activity in food using magnetoliposomes as on-flow microcontainer devices. Román-Pizarro, V., Fernández-Romero, J.M., Gómez-Hens, A. *Journal of Agricultural and Food Chemistry* 62 (2014) 1819-1825 (11 citations)
- 10) Determination of fluoroquinolone antibiotics by microchip capillary electrophoresis along with time-resolved sensitized luminescence of their terbium(III) complexes. Sierra-Rodero, M., Fernández-Romero, J.M., Gómez-Hens, A. *Microchimica Acta* 181 (2014) 1897-1904 (16 citations)
- 11) Strategies to improve the analytical features of microfluidic methods using nanomaterials. Sierra-Rodero, M., Fernández-Romero, J.M., Gómez-Hens, A. *Trends in Analytical Chemistry* 57, (2014) 23-33 (11 citations)
- 12) Determination of aminoglycoside antibiotics using an on-chip microfluidic device with chemiluminescence detection. Sierra-Rodero, M., Fernández-Romero, J.M., Gómez-Hens, A. *Microchimica Acta* 179 (2012) 185-192. (10 citations)
- 13) Determination of antioxidant additives in foodstuffs by direct measurement of gold nanoparticle formation using resonance light scattering detection. Andreu-Navarro, A., Fernández-Romero, J.M., Gómez-Hens, A. *Analytica Chimica Acta* 695 (2012) 11-17. (45 citations)

Book chapters

- 1) Fluorescence: Clinical and drug applications (Book Chapter), Fernández-Romero, J.M., Aguilar-Caballos, M.P., *Encyclopedia of Analytical Science* pp. 233-238. Published: 2019. DOI: 10.1016/B978-0-12-409547-2.00152-9, Part of ISBN: 9780124095472.
- 2) Fluorescence | Food Applications (Book Chapter), Fernández-Romero, J.M., Aguilar-Caballos, M.P., *Fluorescence: Food applications* pp. 281-291. Published: 2019 DOI: 10.1016/B978-0-12-409547-2.00156-6, Part of ISBN: 9780124095472.
- 3) *Microfluidic Systems in Analytical Chemistry*. Fernández-Romero, J.M., Gomez-Hens, A. *Encyclopedia of Analytical Chemistry* (on-line) first published in 2017 (RSC) <https://doi.org/10.1002/9780470027318.a9591>.

C.2. Research projects and grants

- 1) Project: Innovaciones en el desarrollo de plataformas analíticas de respuesta rápida para la evaluación de la calidad y seguridad alimentaria (Bridge aids for research project development, FEDER/UCO/JJAA ID: 126367 MD B1). Lead Researcher: J.M. Fernández Romero, Participants: 10, Funding Entity: FEDER/UCO/JJAA, Period: 01/01/2020-31/12/2020, Funding: 10500.00 €
- 2) Project: Nanotechnological innovations for the quality and safety of meat and dairy foods (XXI P.P. Modality 4.1, Bridge aids for research project development). Lead Researcher: J.M. Fernández Romero, Participants: 8, Funding Entity: FEDER Funds (80%) - UCO (20%), Period: 06/01/2016 - 06/31/2018, Funding: 17100.00 €.
- 3) Project: Use of new nanomaterials for the development of rapid response analytical methods (CTQ-2012-32941/ BQU). Lead Researcher: A. Gómez Hens, Participants: 7. Financing entity: Ministerio de Economía y Competitividad (MICINN). Period: 01/01/2013 - 12/31/2015. Funding: 115830.00 €.
- 4) Project: Rapid methods of separation and determination in agrifood analysis (P09-FQM-4933). Lead Researcher: A. Gómez Hens, Participants: 4. Funding Entity: Junta de Andalucía (Excellence). Period: 01/01/2012 - 12/31/2014. Funding: € 261167.68.
- 5) Project: Innovations in static and dynamic analytical methodologies with the use of nanomaterials (CTQ-2009-08621 / BQU). Lead Researcher: A. Gómez Hens, Participants: 4. Financing entity: Ministerio de Economía y Competitividad (MICINN). Period: 01/01/2010 - 12/31/2012. Funding: € 123420.00.
- 6) Project: New selection and quantitative methodologies with luminescent detection (P06-FQM-1356). Lead Researcher: A. Gómez Hens, Participants: 4. Funding Entity: Junta de Andalucía (Excellence). Period: 01/01/2006 - 12/31/2009. Funding: 199544.98 €.

C.3. Contracts

I have participated in non-competitive contracts and technological merits:

- (1) New methodologies for the design and automation of flow biosensors (HI1997-018)
- (2) Consolidation and contributions of new analytical methodology based on continuous and discontinuous automated techniques (PB96-0505)
- (3) Development of user orientated continuing training courses in the field of biotechnology (LEONARDO)
- (4) Biosensors for direct monitoring of environmental pollutants in the field (PL965022).



C.4. Patents

Two Patents:

1) Method and installation for the quantitative determination of hydroxymetabolites of vitamin D3 continuously and automatically (P9702577). Organization: EPO / MTAP. Seekers: J.M. Quesada Gómez, M.D. Luque de Castro, J.M. Fernández Romero and F. Ortiz Boyer. Situation: Without exploitation.

2) Automatic enzymatic hydrolysis system by flow injection analysis and immobilized enzymes (P9200076). Organization: EPO / MTAP. Seekers: JM. Valcárcel Cases, M.D. Luque de Castro and J.M. Fernández Romero Situation: Without exploitation.

C.5. International and National Research Stays.

1) Center: Institut für Pharmazeutische Chemie (Karl-Franzens Universität Graz). Place: Graz (Austria). Objective: Development of Precipitation Flow Injection Immunoassay. Financing: Scientific Austria and Spain Technical Cooperation Program (Integrated Actions, MEC). Duration: 1 month. Date: 1994

2) Higher Technical Institute of Structural Chemistry (Technical University of Lisbon). Location: Lisbon (Portuga). Objective: Development of sensors for analytical measurements in real time. Determinations in dynamic regime in situ. Financing: Integrated Hispano-Portugasas 81-B, (MEC). Duration: 15 days. Date: 1995

3) Gesellschaft für Biotechnologische Forschung (GBF). Place: Braunschweig (Germany). Objective: Research tasks in the Department of enzymology on the development of amperometric immunosensors for the determination of atrazine. Financing: Assistant training room (JJAA and UCO). Duration: 3 months. Date: 1996

4) Laser Technology Service (University of Málaga). Place: Malaga (Spain). Objective: Research tasks related to optical emission spectroscopy of laser-induced plasmas (LIBS). Financing: Assistant training room (JJAA and UCO). Duration: 9 months. Date: in two years 1997-1998.

C6. Paticipation in the Editorial Revision Process.

He is regular reviewer of articles to be published in JCR journals in Analytical Chemistry area in the followed editorials: Elsevier (J. Chromatography A, Anal. Chim. Acta, and Talanta), RSC (Anal. Methods) and MDPI (Nanomaterials, Sensors, Micromachines, Water, Int. J. Molecular Sci). Since 2017 is Guest Editor of the Special Issue "Luminescence and Chemiluminescence Sensors "in the Sensors journal (MDPI).

C7. Others.

He has 2 awards of recognition of the research: GRASEQA Award" Best Young Researcher (1996) "and Agilent Technologies Award for the "Best Contribution in Separation Techniques (1999)" IX Conference on Instrumental Analysis.

I have collaborated in the research direction of national and international visiting students and professors (11 researchers). I have participated directly in the development of research with two companies and public research institutions (Biosensores S.L., Valencia, and the Municipal Institute of Medical Research, Barcelona).