

Part A. PERSONAL INFORMATION

CV date	25/02/22
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First and Family name	GUADALUPE GÓMEZ BAENA		
Social Security, Passport, ID number	30945953M	Age	44
Researcher codes	WoS Researcher ID (*)	U-8511-2019	
	SCOPUS Author ID(*)	6507871578	
	Open Researcher and Contributor ID (ORCID) **	0000-0003-3796-3874	

A.1. Current position

Name of University	Universidad de Córdoba		
Department	Bioquímica y Biología Molecular		
Address and Country	Campus Universitario Rabanales, Edificio C6, Planta 1, Ala Este, 14014, Córdoba, Spain		
Phone number	+34957211075	E-mail	V52gobag@uco.es
Current position	Assistant Professor	From	02/2019
Key words	Proteomics, mass spectrometry, animal communication		

A.2. Education

Bachelor/Master/PhD	University	Year
PhD	University of Córdoba	2007
Master's thesis	University of Córdoba	2001
Bachelor in Veterinary	University of Córdoba	2000

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

- 23 JCR articles (10 as first author, 2 as corresponding author, 2 D1, 14 Q1)
- h-index 14
- 19 book chapters (2 as corresponding author) and 1 technical note
- Supervision: 2 PhD student (in progress), 8 final year projects, 8 Masters' students, 12 work experience students.
- over 100 contributions to meetings (1 international invited, 1 national invited)

Part B. CV SUMMARY

My research interests lie in the field of mass-spectrometry and its application to animal health and welfare. I graduated in Veterinary Medicine at the University of Córdoba (Spain) and did a PhD in protein chemistry, funded by a FPUel (Junta de Andalucía, Spain), under the supervision of Prof. García-Fernández and Prof. Díez-Dapena. During my PhD, I characterized the regulation of key enzymes in marine picocyanobacteria metabolism which provided me with an essential background in protein chemistry. I also had the opportunity to do two short stays: one at Pedro Candau's group (IBVF, Seville, Spain) and other at Robert Donaldson's group (G. Washington University, Washington DC, USA). During the stay at DC, I became fascinated by the many possible applications of mass-spectrometry in protein research, a field under development by that time. This interest drove my career in a new direction. After completing my PhD, I took the challenge to reorient my research field, to specialize in mass spectrometry-based proteomics applied to animal science, and so I joined Prof. Rob Beynon's lab, at the University of Liverpool (UoL). A Marie Curie Fellowship for career development funded my first 2 years of postdoctoral stage; during this period, I became proficient in the hands-on use of multiple mass spectrometers and the development of new proteomic techniques for the diagnosis of urinary infections in dairy cows and paediatric meningitis (patented). I had my two daughters within this period. After that, I was appointed as Postdoctoral Research Associate at the University of Liverpool, to work in a 5-years, £4.5M project, led Prof Jane Hurst, a world expert in rodent chemical communication. Within this project we developed more efficient pest control strategies based on species-specific chemical signals (under IP evaluation). As a senior researcher, I led the proteomics and protein chemistry research areas. Joining this project meant an exceptional opportunity to broaden my expertise not only in proteomics but also in the areas of structural biology and volatile molecules. I acquired valuable leadership and project management skills as well as experience supervising students. In parallel, I was



involved in several projects unravelling the role of proteins in semiochemical communication in endangered species, such as mouse lemurs, ring tail lemurs and black rhino and kept collaborating with my PhD supervisors contributing with my experience in mass spectrometry based protein quantification. In 2018 I won an interim position at the Biochemistry a Molecular Department at the Faculty of Veterinary in Córdoba, and since February 2022, I hold a Lecturer position. My research group is devoted to the discovery and application of protein biomarkers in several aspects of animal health and welfare, from developing new diagnosis tests for diseases of veterinary interest to the application of semiochemical signals in the conservation of animal species.

Part C. RELEVANT MERITS

C.1. Publications (including books)

1 Scientific paper. GÓMEZ-BAENA, G., et al. Glucose uptake and its effect on gene expression in *Prochlorococcus*. PLoS ONE 3(10): e3416. doi:10.1371/journal.pone.0003416 (2008).

2. Scientific paper. TERNENT, T., CSORDAS, A., QI, D., **GÓMEZ-BAENA, G.,** BEYNON, R.J., JONES, A.R., HERMJAKOB, H., VIZCAINO, J.A. How to submit MS proteomics data to ProteomeXchange via the PRIDE database. Proteomics. 20:2233-41. 2014

3. Scientific paper. BEYNON, R.J., ARMSTRONG, S.D., **GÓMEZ-BAENA, G.,** LEE, V., SIMPSON, D., UNSWORTH, J., HURST, J. The complexity of protein semiochemistry in mammals. Biochemical Society Transactions. 42(4):837-845 (2014).

4. Scientific paper. GÓMEZ-BAENA, G., ARMSTRONG, S.D., PHELAN, M., HURST, J., BEYNON, R.J. Biochemical Society Transactions. 42(4):886-892 (2014). Corresponding autor.

5. Scientific paper. BEYNON, R.J., ARMSTRONG, S.D., CLAYDON, A.J., DAVIDSON, A.J., EYERS, C.E., LANGRIDGE, J.I., **GÓMEZ-BAENA, G.,** HARMAN, V.M., HURST, J.L., LEE, V., MCLEAN, L., PATTINSON, R., ROBERTS, S.A., SIMPSON, D.M., UNSWORTH, J., VONDERACH, M., WILLIAMS, J., WOOLERTON, Y.E. Mass spectrometry for structural analysis and quantification of the Major Urinary Proteins of the house mouse. IJMS. 391: 145-156 (2015).

6. Scientific paper. UNSWORTH, J., LOXLEY, G., DAVIDSON, A.J., HURST, J.L., **GÓMEZ-BAENA, G.,** MUNDY, N.I., BEYNON, R.J., ZIMMERMANN, E., RADESPIEL, U. Characterisation and expression of a urinary protein in the male mouse lemur (*Microcebus spp*). *Scientific Reports*. 7:42940 (2017).

7. Scientific paper. HURST, J.L., ARMSTRONG, S.D., DAVIDSON, A.J., ROBERTS, S.A., **GÓMEZ-BAENA, G.,** BEYNON, R.J., SMADJA, C.M., GANEM, G. Molecular heterogeneity in major urinary proteins of *Mus musculus* subspecies: potential candidates involved in speciation. *Scientific Reports*. 7:44992, 2017

8. Scientific paper. TAKEMORI, N., TAKEMORI, A., TANAKA, Y., ENDO, Y., HURST, J.L., **GÓMEZ-BAENA, G.,** HARMAN, V. M., BEYNON, R.J. MEERCAT: Multiplexed efficient cell free expression of recombinant QconCATs for large scale absolute proteome quantification. MCP (2017).

9. Scientific paper. GÓMEZ-BAENA, G., ARMSTRONG S, HALSTEAD, JO, PRESCOTT M, ROBERTS S.A., MCLEAN L, MUDGE J, HURST JL, BEYNON, R.J. Molecular complexity of the major urinary protein system of the Norway rat, *Rattus norvegicus*. *Scientific Reports* (2019)

10. GÓMEZ-BAENA, G., ARMSTRONG S, HALSTEAD, JO, PRESCOTT M, ROBERTS S.A., MCLEAN L, MUDGE J, HURST JL, BEYNON, R.J. GÓMEZ-BAENA, G., et al Mass spectrometry based proteomics, a fundamental tool to study chemical communication in rodents. VII Jornadas de Divulgación de la Investigación en Biología Molecular, Celular, Genética y Biotecnología. 87-88 (2016)



C.2. Research projects and grants

- 1. Asimilación de nitrógeno y ciclo de Krebs en cianobacterias marinas y de agua dulce: interrelaciones y mecanismos adaptativos.** Ministerio de Educación y Ciencia (BFU2003-09218-CO2-01, 2003-2006). PI: Jesús Díez Dapena
- 2. Mecanismos adaptativos y rutas de control en el metabolismo del nitrógeno y del carbono en *Prochlorococcus*.** Ministerio de Educación y Ciencia (BFU2006-10011/BMC, 2006-2009). PI José Manuel García Fernández
- 3. El proteoma redox comparado.** Junta de Andalucía – Proyectos de Excelencia (P06-CVI-01611, 2007-2011). PI: José Antonio Bárcena Ruiz
Número de investigadores participantes: 24
- 4. Claves del éxito ecológico de la cianobacteria marina *Prochlorococcus*.** Junta de Andalucía. Proyectos de Excelencia (P07-CVI-3055, 2008-2012). PI: José Manuel García Fernández
- 5. Novel strategies for the identification of new biomarkers of veterinary interest.** European Union- Marie Curie Foundation (FP7-PEOPLE-IEF-2008-236805, 2009-2011). PI: Robert J. Beynon/**Guadalupe Gómez Baena**
- 6. The interplay between rodent semiochemistry and pest control strategies.** BBSRC (British Research Council, 2012-2018). PI: Jane L. Hurst
- 7. Metabolismo del carbono y el nitrógeno en cianobacterias marinas: uso de glucosa y diversidad de mecanismos regulatorios.** Ministerio de Economía y Competitividad (BFU2013-44767-P, 2014-2017). PI: José Manuel García Fernández
- 8. Utilización de carbono orgánico y metabolismo del nitrógeno en cianobacterias marinas: uso de glucosa y diversidad de mecanismos regulatorios.** Junta de Andalucía – Proyectos de Excelencia (P12-BIO-2141, 2014-2019). PI: José Manuel García Fernández
- 9. Transporte de alta afinidad y otros mecanismos adaptativos en cianobacterias marinas.** Ministerio de Economía y Competitividad (BFU2016-76227-P, 2016-2019)
José Manuel García Fernández
- 10. Transportadores de alta afinidad como mecanismos adaptativos clave en el éxito ecológico de las picocianobacterias marinas.** Junta de Andalucía (P20_00052, 2021-2022). PI: José Manuel García Fernández
- 11. Acción de un plasma no-térmico sobre la germinación de semillas de *Chenopodium quinoa*.** Universidad de Córdoba (Plan propio). UCOimpulsa. 2020-2021). PI: **Guadalupe Gómez Baena/Rocío Rincón Liévana**
- 12. Development of a protein based diagnostic test for equine metabolic syndrome: application in the prevention of laminitis.** Waltham foundation (UK) 2021-2023). PI: **Guadalupe Gómez Baena**
- 13. Búsqueda de marcadores proteícos para el diagnóstico del síndrome metabólico en caballos.** Junta de Andalucía (Fondos FEDER-UCO, 2022). PI: **Guadalupe Gómez Baena**



C.3. Patents

GUADALUPE GÓMEZ BAENA; Carrol, Enitan; Beynon, Robert. WO 2017178826 A1. Diagnosing acute bacterial meningitis United Kingdom. 14/04/2016. University of Liverpool.

C.5. Membership

Member of the Spanish Society of Proteomics since April 2010

Member of the Biochemical Society since September 2013

Member of the Spanish Society of Biochemistry and Molecular Biology since January 2002.

C.6. Academic responsibilities

Member of the Biosafety Committee at the Faculty of Veterinary Medicine (University of Córdoba) since 2017

Member of the Evaluation Committee of Master projects, Master in Biotechnology, University of Córdoba (2018/2019)

Member of the Evaluation Committee of Final year projects, Veterinary Degree, Biochemistry Degree, Biology Degree at the University of Córdoba (2018/2019, 2019/2020, 2020/2021)

Member of the academic committee of the Master in Bioeconomy (University of Córdoba) since September 2021

C.8 Others:

Reviewer for several scientific journals including Proteomics, Journal of Proteome Research, Scientific Reports, International Journal of Molecular Sciences, Chemical Senses

Participation in outreach activities:

- STEM Ambassador, January 2015-January 2019
- “Meet the scientists” (2015-2016). Liverpool (UK)
- “Science Club” at New Park Primary School, 2016-2017. Liverpool (UK)
- “The European Researcher’s night”. (2017-2021) Córdoba (Spain)
- “Jornadas de introducción a ciencias de la vida”, (2018-2019). Córdoba (Spain)
- “Ingenios en ruta”, (2018-2021). Córdoba (Spain)
- “Paseo por la ciencia” 2018. Córdoba (Spain)
- “Campus de investigación UCO” (2018-2019). Córdoba (Spain)