

CURRICULUMS VITAE DE LOS MIEMBROS DE LAS COMISIONES DE SELECCIÓN

Comisión titular

1. Presentación Carrillo Lechuga
2. Juan Manuel Medina Sánchez
3. Carmen Pérez Martínez
4. Eduardo Moisés García Roger
5. Gema Parra Anguita

Comisión suplente

6. María Inmaculada de Vicente Álvarez-Manzaneda
7. Manuel Jesús López Rodríguez
8. Penélope Serrano Ortiz
9. Enrique Moreno Ostos
10. María José Carmona Navarro





CV date	October 2022
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Part A. PERSONAL INFORMATION

Firstname	Presentación		
Family name	Carrillo Lechuga		
e-mail	pcl@ugr.es	URL Web	
Open Research and Contributor ID (ORCID)(*)	0000-0003-3794-4294		

(*) *Mandatory*

A.1. Current position

Position	Full professor		
Initial date	15/12/2011		
Institution	Granada University		
Department/Center	University Research Institute of Water. Dpto Ecology. Fac Science		
Country	Spain	Teleph. number	34-958243093
Key words	UVR, CO ₂ , Warming, Dust deposition Phytoplankton, Primary Production, multiple stressors interaction, Metabolic balance		

A.2. Previous positions (research activity interruptions, art.45.2.c))

Period	Position/Institution/Country/Interruption cause
1996- 2011	Associate Professor UGR/ SPAIN
1995-1996	Associate Professor with tenure UGR/ SPAIN
1994-1995	"Profesor Asociado" UGR/ SPAIN
1990 1994	Assistant L.R.U. UGR/ SPAIN
1990-1992	Postdoctoral Grant MEC
1986-1989	FPI grant MEC

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD Biology	Granada	1989
Licensed and Master in Biology	Granada	1985

Part B. CV SUMMARY (max. 5000 characters, including spaces)

Scientific trajectory: I am interested in understanding the links between functional diversity and biogeochemical cycles in aquatic ecosystems, as well as the resilience of ecosystems to global change. My PhD was the first study in Spain that used experimental mesocosms in situ to study algae-zooplankton relationship in High Mountain, which reached a Cum laude score and the Excellent Doctorate Award. Later, I obtained Postdoctoral fellowships (1990 and 1991) and I did my postdoctoral (IES, Italy) working within the European project (Ecosystem Research in Freshwater Environment Recovery (ERIFER). The contact with researchers from the centre allowed my participation in the European projects ALPE 2 MOLAR and after BIOMAN; and currently in the Life Watch ERIC action. In 1996, I joined the Ecology Dpto (UGR) as an Associate professor, then I started a new research line on Global Change and UVR effects on organisms and trophic interactions in high mountain lakes. These ecosystems have been the main goal of my research, focused on fundamental aspects trophic interactions: herbivory (Carrillo et al., 1990, 1991, 1995), commensalism (Carrillo et al., 2002), competence (Villar-Argaiz et al., 2002a), mutualism (Medina et al 2006), parasitism (Reche et al., 1994), as well as the indirect effects generated by these interactions that act modulating the communities structure (Carrillo et al., 1995, Carrillo et al., 1996a, Carrillo et al., 1996b) and the C-flux in high mountain Lakes (Reche et al., 1997, Medina-Sánchez et al., 2006). From these studies, we have proposed some models of pelagic trophic networks (Carrillo et al., 1995, Villar-Argaiz et al., 2001, Medina-Sánchez et al., 2004; Carrillo, et al., 2006). In the last 10 years, my work has been focused on the interactive effect of multiple stressors of global change (UVR, nutrient inputs, CO₂, Warming, aerosol deposition in lakes of Pyrenees, Picos de Europa and Sierra Nevada, Andes, lagunas de Ruidera, Mar de Alborán, Atlántico Sur etc. following different

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approaches, molecular, physiological and stoichiometry. As a result of these works, I have published a total of 105 papers in high-impact scientific journals in ecology/limnology, 10 book chapters and more than 170 presentations at congress. **Scientific collaborations** I have made different research stays and promoted cooperation agreements with different European countries (France, Italy, Portugal, Argentina, USA). Currently, I coordinate the Functional Ecology research group, composed by ten researchers (permanent teacher, postdoctoral, predoctoral and technical assistant). Since 1996 we uninterruptedly have obtained funding in National I+D +i programs both from the MICINN and Ministry of the Environment and Excellence Project of the Junta de Andalucía, European UVB network in which CSIC researchers collaborate: Museum of Natural Sciences, Spanish Institute of Oceanography, Univ, Málaga, Cavanilles Institute Valencia, Comahue University-CONICET. Photobiology Center-CONICET in Argentina and Grand Valley State University (USA). **Organization I+D activities:** I have experience as: Secretary of the VI Spanish Congress of Limnology Organization of Congress. September 1991; Secretary of the Workshop 5th ALPE Meeting. International, May 1995; Member of the Scientific Committee and Session Moderator of the XIV and XV Congress of the Iberian Association of Limnology in 2008 and 2010 respectively; Spanish representative of the UV4GROWTH-L NETWORK: COST-ACTION, January 2009-2014 Member of the Organizing Committee of the 9th International Workshop GAP. 2012; Adviser of the Scientific Committee Advisory Committee of the Museum of Natural Sciences (CSIC), Madrid from 2014 to the present. **Doctoral and Predoctoral Training.** I have been a supervisor of FPU fellowship and PhD: I. Reche, Full Professor (UGR) M. Villar Argai, and J. M. Medina-Sánchez associate Professor (UGR); J.A. Delgado-Molina, Biology teacher; F.J. Bullejos, Marie Sklodowska-Curie Postdoctoral, C. Durán-Romero, Associate Professor UNP (Argentina); M.J. Cabrerizo Postdoctoral JdC (UV). J.M González-Olalla Postdoctoral Utah-USA. M. Vila and V. Moreno A(FPU). **Responsibility in University management.** I had or have different positions as Secretary of University Research Institute of Water (UGR), from January 15, 2009-2017. Coordinator of the Doctorate Program of Fundamental Biology and Systems of Granada School International Postgraduate-UGR, from 2010 to 2019. Head of University Research Institute of Water-UGR from 2017-present. **General indicators of quality of scientific production** I have a total number of citations, 2557; the number of citations from 2017, 1007, the total number of publications in the first quartile in the five years 29 (Q1:20) and (D1:9). h-index:30; Índice i10:66.) Other indicators that you may consider relevant. 6/6 positive evaluations of six-year research periods” 6/6 positive five-year teaching periods.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Some publications (including books)

1. Cabrerizo M. J., Medina-Sánchez, J.M.; González-Olalla, J M., Sánchez-Gómez. D. & P. Carrillo 2022. Microbial plankton responses to multiple environmental drivers in marine ecosystems with different phosphorus limitation degrees. Science of the Total Environment doi.org/10.1016/j.scitotenv.2021.151491. IF: 7.96, Environmental Science (25/ 274) (D1)
2. Biddanda BA., Dila DK., Weinke, AD., Mancuso JL., Villar-Argai, M., Medina-Sánchez, J, González-Olalla, JM., Carrillo, P. 2021 (Review). Housekeeping in the hydrosphere: Microbial cooking, cleaning, and control under stress. Life 11(2), 152; doi:10.3390/life11020152.
3. Cabrerizo M. J., Medina-Sánchez, J.M.; González-Olalla, J M., Sánchez-Gómez. D. & P. Carrillo. 2021. Microbial plankton responses to multiple environmental drivers in marine ecosystems with different phosphorus limitation degrees Science of the Total Environment doi.org/10.1016/j.scitotenv.2021.151491. IF: 7.963 (Environmental Sciences, 25/274) (D1).
4. González-Olalla, J.M, Medina-Sánchez, J.M., Norici A. & P. Carrillo. 2021. Regulation of phagotrophy by prey, low nutrients, and low light in a mixotrophic haptophyte. Microbial Ecology doi.org/10.1007/s00248-021-01723-w IF: 4,55, Marine and Freshwater (8/110) (D1).
5. González-Olalla, JM. Medina-Sánchez, J.M. & P. Carrillo. 2021. Testing the Metabolic Theory of Ecology on functional phytoplankton groups under increased and fluctuating temperature and nutrient enrichment. Microbial Ecology doi.org/10.1007/s00248-021-01787-8. IF: 4,55, Marine and Freshwater (8/110)(D1).
6. Cabrerizo M. J., E. W. Helbling, V.E. Villafañe, J.M. Medina-Sánchez, & P. Carrillo. 2020. Multiple interacting environmental drivers reduce the impact of solar UVR on primary productivity in Mediterranean lakes. Scientific Report, 10:19812; doi.org/10.1038/s41598-020-76237-5: IF: 4,38, Multidisciplinary Sciences 19/128 (Q1)

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7. Durán-Romero, C Medina-Sánchez, JM& Carrillo P. 2020. High-mountain lakes. *Scientific Reports* 10 (1), 1-11. IF: 4,38, *Multidisciplinary Sciences* 19/128 (Q1)
8. Cabrerizo, M.J., González-Olalla, J.M., Hinojosa-López, V. J., Peralta, F. J. & Carrillo, P. 2019. A shifting balance: Responses of mixotrophic marine algae to cooling and warming under UVR. *New Phytologist* doi: 10.1111/nph.15470 IF: 8.512, *Plant science* 2/251 (D1).
9. González-Olalla, J.M, J.M. Medina-Sánchez & Carrillo, P. 2019. Mixotrophic trade-off under warming and UVR in a marine and a freshwater alga. *Journal of Phycology* doi: 10.1111/jpy.12865. IF: 2,93, *Marine & Freshwater Biology* 25/107 (Q1)
10. Cabrerizo M., J., Medina-Sánchez, J.M., Villar-Argaiz, M. & P. Carrillo. 2019: Interplay between resistance and resilience governs the stability of a freshwater microbial food web under multiple stressors. *Science of the Total Environment* 691: 908–918; IF: 6,55 *Environmental Sciences*, 22/265 (D1).
11. Villar-ArgaizM., Rajic S., Cabrerizo M.J., ValiñasM., González-Olalla J.M. & P. Carrillo. 2018. Growth impacts of Saharan dust, mineral nutrients, and CO₂ on a planktonic herbivore in southern Mediterranean lakes. *Science of the Total Environment* doi.org/10.1016/j.scitotenv.2018.05.041. IF :5,73 (*Environmental Sciences*, 27/251) (Q1).
12. Cabrerizo M J., P. Carrillo, V.E. Villafañe, J.M. Medina-Sánchez& E. W.Helbling. 2018.Increased nutrients from aeolian dust and riverine origin decrease the CO₂-sink capacity of coastal South Atlantic waters under UVR exposure. *Limnology and Oceanography*, doi.org/10.1002/lno.10764. IF:4,32, *Oceanography* 3/63 (D1).
13. Carrillo, P., Medina-Sánchez, J.M., Villar-Argaiz, M., Bullejos, F.J., Durán, C. Bastidas-Navarro, M., Souza, M.S., Balseiro, E.G., & Modenutti, B.E. 2017. Vulnerability of mixotrophic algae to nutrient pulses and UVR in an oligotrophic Southern and Northern Hemisphere lakes: *Scientific Reports*, doi: 10.1038/s41598-017-06279-9. IF: 4,12 *Multidisciplinary science* 12/115 (D1)
14. Cabrerizo, M.J., Medina-Sánchez, I. Dorado;Villar-Argaiz, M & P. Carrillo, 2017. Rising frequency of resource pulses under solar UVR strengthen microbial interactions. *Scientific reports* 7, 43615; DOI: 10.1038/srep43615. IF: 4,12 *Multidisciplinary science* 12/115 (D1)
15. Duran, C., Medina-Sánchez, J.M., Herrera, G. & P. Carrillo. 2016.Changes in the phytoplankton-bacteria coupling triggered by joint action of UVR, nutrients, and warming in Mediterranean high-mountain lakes. *Limnology and Oceanography*, 61: 413-429, DOI: 10.1002/lno.10204 IF: 3.383 *Limnology* 2/20 (D1)
16. Carrillo P., Medina-Sánchez J.M., Herrera G., Durán C., Segovia M., Cortés D., Salles S, Korbee N., Figueroa F.L & J.M., Mercado, 2015. Interactive Effect of UVR and Phosphorus on the Coastal Phytoplankton Community of the Western Mediterranean Sea: Unravelling Eco-Physiological Mechanisms. *PLoS ONE* DOI: 10.1371/journal.pone.0142987. IF:3.05 *Multidisciplinary Science* 11/63 (Q1).
17. Carrillo P., Medina-Sánchez, J. M., Duran, C., Herrera, G-. Villafañe V. E. & Helbling W. E. 2015. Synergistic effects of UVR and simulated stratification on commensalistic algal-bacterial relationship in two optically contrasting oligotrophic Mediterranean lakes. *Biogeosciences* 12:697-712. IF.3,7, *Ecology* 31/15; (Q1)

C.2. Congress

1. González Olalla, J.M., Medina-Sánchez, J. M. & P. Carrillo. Looking into the real impact of phagotrophy on a cosmopolitan mixotrophic protist. *Congreso American Society of Limnology and Oceanography – ASLO 2021.Mallorca (Spain). 2021.Oral presentation*
2. Cabrerizo, M. J Helbling E.W., Villafañe V.E, Medina-Sánchez, J. M., Villar-Argaiz, M. & P. Carrillo. Cumulative impact of multiple global-change drivers on primary production change their net effect along an optical gradient. *XIX Conference of the Iberian Association of Limnology. Coimbra (Portugal). 2018.Oral presentation*
3. Cabrerizo M. J Medina-Sánchez, J. M. Villar-Argaiz, M. & P. Carrillo. Accumulative impact of multiple global-change stressors modulates the phytoplankton-bacteria interaction. *10th Symposium for European Freshwater Sciences 2017. Olomouc, Czech Republic. 2017. Oral presentation*
4. González Olalla J. M., Medina-Sánchez J.M., Margenet V. & P. Carrillo Mixotrophy is questioned under global change: UVR induces negative effect at high temperatures. *10th Symposium for European Freshwater Sciences 2017. Olomouc, Czech Republic. 2017. Oral presentation*



5. González-Olalla, J.M. Medina- Sánchez J.M., Villar-Argaiz, M., López-Carretero M. & Carrillo P. Has mixotrophic metabolism been altered by climate-driven changes after a decade? SIL XXXII Congress (SIL 2016). Torino (Italy). 2016.Oral presentation

6. Villar-Argaiz, M.; Rajic, S.; González Olalla, J. M.; Medina-Sánchez, J. M.; Cabrerizo, M. J. Carrillo, P. Do atmospheric depositions or nutrients compensate for the effects of CO2 on the growth rate of Daphnia Magna? .Aquatic Sciences: Global And Regional Perspectives – North Meets South (ASLO 2015). Granada. 2015.Oral presentation

7. Medina-Sánchez JM, Dorado-García I, Cabrerizo MJ, Jiménez-Coll E, Carrillo P. Experimental test of resource limitation of bacterioplankton in Mediterranean inland waters of contrasted trophic status. SIL XXXII Congress. Budapest (Hungria). 2013.Oral presentation.

8. Carrillo P, Medina-Sánchez JM, Duran C, Herrera G, Cabrerizo MJ, Villar-Argaiz.M, Villafañe V& Helbling EW. Algae-bacteria relationship altered by increasing stratification and UVR in oligotrophic Mediterranean lakes.SIL XXXII Congress Budapest (Hungria). 2013. Oral presentation

C.3. Research projects

1. Sinergias entre cambio climático y productos de degradación de plásticos sobre ecosistemas acuáticos andaluces. CLIMAPLAST. FEDER/Junta de Andalucía-Consejería de Transformación Económica, Industria, Conocimiento y Universidades Proyecto (P20-00105). 01/10/2021-31/09/2023. **IP: P Carrillo**; Grant:119.050€
2. REsilience of high-MOUNTAINLAKES to chronic, pulsed and fluctuating Disturbances of global stress factors: Observational and eXperimental approaches: (REMOLADOX) Ministerio de Ciencia e Innovación PID2020-118872RB-I00. 01/09/2021-30/08/ 2024.**IPs: P Carrillo & M. Villar-Argaiz**.Grant: 179 443€.
3. CGL2015-67682-R.Metabolismo de los ecosistemas acuáticos del Sur de la Península Ibérica: Nuevos equilibrios frente al Cambio Global. Ministerio deCiencia e Innovación. 01/01/2016-31/12/2018.**IPs P. Carrillo & J.M Medina-Sánchez**.Grant: 171.820€
4. CGL2011-23681. Assessing Microbial Loop Sensitivity to the impact of multiple factors in Mediterranean aquatic ecosystems. Ministerio de Ciencia e Innovación. Duration: 01/01/2012-31/12/2015. **IP: P.Carrillo**. Grant:158.510 €
5. OAPN 2009/067.Seguimiento interanual y análisis experimental de factores de cambio global(UVR y entradas deP) sobre los productores primarios en lagos de alta montaña. Ministerio de Medio Ambiente y Medio Rural y Marino.15/12/2009-30/06/2013. **IP: P. Carrillo**. Grant:109.499,90 €
6. P07-CVI-02598.Vulnerabilidad de ecosistemas acuáticosdel Sur de la Península Ibérica frente a factores de cambio global. Radiación Ultravioleta y aporte de nutrientes minerales. Junta de Andalucía (conv. proy EXCELENCIA).15/1/2008-31/12/2012. **IP: P. Carrillo**.Grant: 198.185 €

C.4. Contracts, technological or transfer merits.

- Adquisición de un UHPCL-qTOF para el Instituto Universitario Investigación del Agua de la Universidad de Granada en un ámbito multidisciplinar para su aplicación en estudios de mejora de la calidad de los recursos hídricos. Junta de Andalucía 01/01/2018-31/12/2020. **IP: P Carrillo**. Grant: 273,152.60€
- LifeWatch-ERIC. Thematic Center on Mountain Ecosystem & Remote sensing, Deep learning-AI e-Services University of Granada-Sierra Nevada. European Research Infrastructure Consortium (ERIC). I.P: M Villar Argaiz(UGR).01/2020-12/2023. Grant: 580.480 €. Participation as Researcher.
- EQC2018-004720-P:Adquisición de un equipo de cromatografía de alta resolución LC-MS/MS triple cuadrupolo, para la cuantificación decontaminantes emergentes en aguas residuales y naturales Ministerio de Ciencia e Innovación.Duration: 01/01/2018-31/12/2018.**IP: P Carrillo**.Grant: 282,452.60€.
- Ríos de la Vida. Ministerio de Ciencia, Innovación y Universidades La Fundación Española para la Ciencia y la Tecnología (FECYT) 01/09/2021 30/08/ 2022. IP: M. Villar-Argaiz. Grant: 35000€. Participation as Researcher
- 74 Oasis glaciares de alta montaña en Sierra Nevada: una campaña de ciencia ciudadana por todo lo alto Entidad: Universidad de Granada FCT-18-13095. La Fundación Española para la Ciencia y la Tecnología (FECYT).01/01/2019-31/12/2020. IP: M.Villar-Argaiz.Grant: 10.000€. Participation as Researcher

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Parte A. DATOS PERSONALES

Fecha del CVA

Septiembre 2022

Nombre y apellidos	Juan Manuel Medina Sánchez		
Núm. identificación del investigador	Researcher ID	A-4703-2013	
	Código Orcid	0000-0003-0991-9331	

A.1. Situación profesional actual

Organismo	Universidad de Granada		
Dpto./Centro	Instituto del Agua / Departamento de Ecología		
Dirección	C/Ramón y Cajal 4 / Avda. Fuentenueva s/n / 18071 Granada		
Teléfono	958241000ext20061	Correo electrónico	jmedina@ugr.es
Categoría profesional	Profesor Titular Universidad	Fecha inicio	9-7-2011
Espec. cód. UNESCO	241704, 250805, 250808		
Palabras clave	Interacción de factores de estrés. Cambio global. Estequiometría ecológica. Metabolismo ecosistémico		

A.2. Formación académica (título, institución, fecha)

Licenciatura/Grado/Doctorado	Universidad	Año
Licenciado en Ciencias Biológicas	Universidad de Granada	1994
Doctor en Ciencias Biológicas	Universidad de Granada	2002

A.3. Indicadores generales de calidad de la producción científica

Número de sexenios investigación (CNEAI): 3. Fecha del último concedido: 2016
 Número de complementos autonómicos (DEVA): 5. Fecha del último concedido: 2018
 Número de tramos (quinquenios) docentes (UGR): 4. Fecha del último concedido: 2017
 Número de tesis doctorales dirigidas (10 años): 3 leídas y 1 en proceso
 Número de publicaciones totales: 62, en revistas indexadas JCR primer cuartil (Q1): 38
 Índices de citas (Scholar Google)

	Total	Desde 2017
Citas:	1958	926
Índice h:	26	19
Índice i10:	42	36

Parte B. RESUMEN LIBRE DEL CURRÍCULUM (máximo 3500 caracteres, incluyendo espacios en blanco)

Trayectoria científica: Tras mi tesis doctoral (Premio Extraordinario de Doctorado, Universidad de Granada), tuve un contrato de investigación postdoctoral (2003-2004, Programa de Perfeccionamiento de Doctores de la Junta de Andalucía) en el CSIC (CEAB, director Dr. Jordi Catalán) donde proseguí con el estudio de la mixotrofia en ecosistemas de alta montaña. Esta línea tuvo continuidad como investigador contratado en la Universidad de Granada (2006-2007), seguida de mi carrera como docente e investigador a través de diferentes figuras de Profesor hasta la actualidad.

Intereses científicos: dentro del grupo RNM-367 "Ecología Funcional", mi investigación se centra en la estructura, funcionamiento y regulación de las redes tróficas microbianas en ecosistemas acuáticos: mecanismos de respuesta a múltiples factores de estrés de cambio global, variaciones de la biodiversidad funcional, y metabolismo del carbono y nitrógeno en los ecosistemas.

Aportes científicos: avances metodológicos para el estudio de la mixotrofia (Medina-Sánchez et al. 2004, 2005, González-Olalla et al. 2021) y respiración (Medina-Sánchez et al. 2017) en ecosistemas acuáticos oligotróficos, y avances teóricos en modelos de regulación de redes tróficas microbianas en lagos de alta montaña (Medina-Sánchez et al. 1999, 2004, 2013), patrones de limitación microbiana en gradientes tróficos (Medina-Sánchez et al. 2010), pérdida de biodiversidad funcional (Delgado-Molina et al. 2009; Carrillo et al. 2017), co-limitación microbiana (Dorado-García et al. 2014), regulación microbiana por efecto priming en aguas continentales húmicas (Dorado-García et al. 2016), ectoenzimas microbianas (Velasco-Ayuso et al. 2017), desnitrificación (Castellano-Hinojosa et al. 2017), resiliencia-resistencia (Cabrero et al. 2019), impacto de múltiples factores de estrés de cambio global sobre especies algales y

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redes tróficas microbianas (Medina-Sánchez et al. 2006, 2013; Helbling et al. al. 2013; Duran et al. 2016, 2020; Carrillo et al. 2015; Cabrerizo et al. 2016, 2017, 2018, 2022; González-Olalla et al. 2017, 2018, 2019, 2022; Villar-Argaiz et al. 2018).

Colaboraciones científicas: He colaborado con investigadores del CSIC (EEZ, CEAB), Instituto Español de Oceanografía (IEO, Málaga), Universidad de Málaga, Universidad de Barcelona, y de centros de prestigio internacional como la Estación de Fotobiología de Playa Unión (Argentina), CONICET-Universidad del Comahue (Argentina), Universidad de Jyväskylä (Finlandia), Universidad de Bergen (Noruega) y Grand Valley State University (EEUU).

Parte C. MÉRITOS MÁS RELEVANTES ÚLTIMOS 5 AÑOS (2017-2022) (ordenados por tipología)

C.1. Publicaciones

C.1.1. Artículos en revistas

1. Cabrerizo MJ, Medina-Sánchez JM, González-Olalla JM, Sánchez-Gómez D, Carrillo P. 2022. Microbial plankton responses to multiple environmental drivers in marine ecosystems with different phosphorus limitation degrees. *Science of the Total Environment*. 816,151491. DOI: 10.1016/j.scitotenv.2021.151491
2. González-Olalla JM, Medina-Sánchez JM, Carrillo P. 2022. Fluctuation at high temperature combined with nutrients alters the thermal dependence of phytoplankton. *Microbial Ecology* 83:555-567. DOI: 10.1007/s00248-021-01787-8
3. González-Olalla JM, Medina-Sánchez JM, Norici A, Carrillo P. 2021. Regulation of phagotrophy by prey, low nutrients, and low light in the mixotrophic haptophyte *Isochrysis galbana*. *Microbial Ecology* 82:981-993. DOI: 10.1007/s00248-021-01723-w
4. Biddanda BA, Dila DK, Weinke AD, Mancuso JL, Villar-Argaiz M, Medina-Sánchez JM, González-Olalla JM, Carrillo P. 2021. Housekeeping in the hydrosphere: Microbial cooking, cleaning, and control under stress. *Life* 11(2),152. DOI:10.3390/life11020152
5. Cabrerizo MJ, Helbling EW, Villafañe VE, Medina-Sánchez JM, Carrillo P. 2020. Multiple interacting environmental drivers reduce the impact of solar UVR on primary productivity in Mediterranean lakes. *Scientific Reports* 10,19812. DOI: 10.1038/s41598-020-76237-5
6. Durán C, Medina-Sánchez JM, Carrillo P. 2020. Uncoupled phytoplankton-bacterioplankton relationship by multiple drivers interacting at different temporal scales in a high-mountain Mediterranean lake. *Scientific Reports* 10:350. DOI: 10.1038/s41598-019-57269-y
7. Cabrerizo MJ, Medina-Sánchez JM, Dorado I, Villar-Argaiz M, Carrillo P. 2019. Interplay between resistance and resilience governs the stability of a freshwater microbial food web under multiple stressors *Science of the Total Environment* 691:908-918. DOI: 10.1016/j.scitotenv.2019.07.173
8. González-Olalla JM, Medina-Sánchez JM, Lozano IL, Villar-Argaiz M, Carrillo P. 2018. Climate-driven shifts in algal-bacterial interaction of high-mountain lakes in two years spanning a decade. *Scientific Reports* 8,10278. DOI:10.1038/s41598-018-28543-2
9. Cabrerizo MJ, Carrillo P, Villafañe VE, Medina-Sánchez JM, Helbling EW. 2018. Increased nutrients from aeolian-dust and riverine origin decrease the CO₂-sink capacity of coastal South Atlantic waters under UVR exposure. *Limnology and Oceanography* 63:1191-1203. DOI: 10.1002/lno.10764
10. Villar-Argaiz M, Medina-Sánchez JM, Biddanda BA, Carrillo P. 2018. Predominant non-additive effects of multiple stressors on autotroph C:N:P ratios propagate in freshwater and marine food webs. *Frontiers in Microbiology* 9:69 DOI: 10.3389/fmicb.2018.00069
11. Medina-Sánchez JM, Herrera G, Durán C, Villar-Argaiz M, Carrillo P. 2017. Optode use to evaluate microbial planktonic respiration in oligotrophic ecosystems as an indicator of environmental stress. *Aquatic Sciences* 79:529-541. DOI: 10.1007/s00027-016-0515-y
12. Velasco Ayuso S, Medina-Sánchez JM, Guénon R, Carrillo P. 2017. Coenzyme activity ratios reveal interactive effects of nutrient inputs and UVR in a Mediterranean high-mountain lake. *Biogeochemistry* 132:71-85. DOI: 10.1007/s10533-016-0288-3
13. Cabrerizo MJ, Medina-Sánchez JM, Dorado I, Villar-Argaiz M, Carrillo P. 2017. Rising frequency of resource pulses under solar UVR strengthen microbial interactions. *Scientific Reports* 7:43615. DOI: 10.1038/srep43615
14. Castellano-Hinojosa A, Correa-Galeote D, Carrillo P, Bedmar EJ, Medina-Sánchez JM. 2017. Denitrification and biodiversity of denitrifiers in a high-mountain Mediterranean lake. *Frontiers in Microbiology* 8: 1911. DOI: 10.3389/fmicb.2017.01911
15. Carrillo, P, Medina-Sanchez JM, Villar-Argaiz M, Bullejos FJ, Durán C, Bastidas-Navarro M, Souza MS, Balseiro EG, Modenutti BE. 2017. Vulnerability of mixotrophic algae to nutrient

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pulses and UVR in an oligotrophic Southern and Northern Hemisphere lake. *Scientific Reports* 7: 6333. DOI: 10.1038/s41598-017-06279-9

16. González-Olalla JM, Medina-Sánchez JM, Cabrerizo MJ, Villar-Argáiz M, Sánchez-Castillo PM, Carrillo P. 2017. Contrasting effect of Saharan dust and UVR on autotrophic picoplankton in nearshore versus offshore waters of Mediterranean Sea. *Journal of Geophysical Research: Biogeosciences* 122: 2085-2103. DOI: 10.1002/2017JG003834

C.1.2. Capítulos de libros

1. Medina-Sánchez JM, Cabrerizo MJ, González-Olalla JM, Villar-Argaiz M, Carrillo P. 2022. High Mountain Lakes as Remote Sensors of Global Change. In: Zamora R, Oliva M. (eds.) *The Landscape of the Sierra Nevada. A Unique Laboratory of Global Processes in Spain*. Springer.
2. Villafañe VE, Cabrerizo MJ, Carrillo P, Hernando MP, Medina-Sánchez JM, Narvarte MA, Saad JF, Valiñas MS, Helbling EW. 2021. Global Change Effects on Plankton from Atlantic Patagonian Coastal Waters: The Role of Interacting Drivers. In: Helbling EW, Narvarte MA, González RA, Villafañe VE (eds.) *Global Change in Atlantic Coastal Patagonian Ecosystems. A Journey Through Time*. Springer.

C.2. Proyectos

1. P20-00105. Sinergias entre cambio climático y productos de degradación de plásticos sobre ecosistemas acuáticos andaluces. CLIMAPLAST. FEDER/Junta de Andalucía (conv. 2020). 01/10/2021-31/09/2023. MR: P. Carrillo; Grant: 119.050€. Participation as: Researcher.
2. PID2020-118872RB-I00. RESilience of high-MOUNTAIN LAKES to chronic, pulsed and fluctuating Disturbances of global stress factors: Observational and eXperimental approaches (REMOLADOX). Ministerio de Ciencia e Innovación (conv. 2020). 01/09/2021-30/08/2024. MRs: P. Carrillo & M. Villar-Argaiz. Grant: 179.443€. Participation as: Researcher.
3. LifeWatch-ERIC. Thematic Center on Mountain Ecosystem & Remote sensing, Deep learning-AI e-Services University of Granada-Sierra Nevada. European Research Infrastructure Consortium (ERIC). MR: R. Zamora (UGR). Duration: 01/2021-12/2022. Grant: 6.052.480 €. Participation as: Researcher.
4. A-RNM-237-UGR18. Eficiencia de la desnitrificación en la eliminación de especies reactivas de nitrógeno en ecosistemas acuáticos de montaña. Proyectos I+D+I - Programa Operativo FEDER Andalucía 2014-2020 (conv. 2018). MRs: JM Medina Sánchez (UGR) & EJ Bedmar Gómez (CSIC). Duration: 01/01/2020-30/06/2022. Grant: 14.900 €. Participation as: Main researcher.
5. CGL2015-67682-R. Metabolismo de los ecosistemas acuáticos del Sur de la Península Ibérica: Nuevos equilibrios frente al cambio global. Ministerio de Economía y Competitividad y FEDER (conv. 2015). MRs: P. Carrillo (UGR) & J.M. Medina Sánchez (UGR). Duration: 01/01/2016-31/12/2018. Grant: 171.820 €. Participation as: Main researcher.
6. P14-RNM-327. Efectos del manejo integrado de la cuenca y el cambio global sobre los sistemas lóticos y lénticos. Junta de Andalucía (conv. 2014, proyectos de Excelencia). MR: M. Villar Argáiz (UGR). Duration: 01/02/2014-31/01/2018. Grant: 108.556,73 €. Participation as: Researcher.

C.3. Contratos, méritos tecnológicos o de transferencia

1. FCT-20-15582. Ríos de Vida. Ministerio de Ciencia, Innovación y Universidades. Fundación Española para la Ciencia y la Tecnología (FECYT) 01/09/2021-30/08/2022. MR: M. Villar-Argaiz. Grant: 35000 €.
2. FCT-18-13095. 74 Oasis Glaciares de Alta Montaña: una Campaña de Ciencia Ciudadana por todo lo Alto. Fundación Española para la Ciencia y la Tecnología (FECYT). MR: M. Villar Argáiz (UGR). Duration: 07/2019-09/2020. Grant: 10.000 €.

C.5. Congresos

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- Villar-Argaiz M, Medina-Sánchez JM, López-Rodríguez MJ, Corral-Arredondo E, González-Olalla JM, Vilá-Duplá M; Zamora R, Pérez-Martínez C et al. Citizen Science in Sierra Nevada: a necessary step forward in mountain water research and conservation. International Mountain Conference 2022, Innsbruck (Austria). Oral presentation.
- Villar-Argaiz M, Medina-Sánchez JM, Fajardo-Merlo MC, Muñoz-Pedraza AG, Sofos-Neberos E, Biddanda B, Camacho-Páez J, Morales-Jimenez D. The heat is on: Rising trend in water temperature of high mountain lakes with variable depth and geomorphometric features. International Mountain Conference 2022, Innsbruck (Austria). Póster.
- Vila-Duplá M, Medina-Sánchez JM, Villar-Argaiz M, González-Olalla JM, Garrido-Cañete G, Fernández-Zambrano A, Carrillo P. Light and Shade: beneficial and detrimental impacts of Saharan dust on high mountain lakes. International Mountain Conference 2022, Innsbruck (Austria). Oral presentation.
- González Olalla JM., Medina-Sánchez JM, Carrillo P. Looking into the real impact of phagotrophy on a cosmopolitan mixotrophic protist. American Society of Limnology and Oceanography – ASLO 2021. Mallorca (Spain). Oral presentation
- Cabrerizo MJ. Helbling EW, Villafañe VE, Medina-Sánchez JM, Villar-Argaiz M, Carrillo P. Cumulative impact of multiple global-change drivers on primary production change their net effect along an optical gradient. XIX Conference of the Iberian Association of Limnology. 2018. Coimbra (Portugal). Oral presentation.
- Medina-Sánchez JM, Sarañana-Alonso AA, Dorado-García I, Lozano IL, Carrillo P. Microbial biomanipulation based on labile carbon enrichment as a low-cost tool for eutrophication control in Mediterranean inland waters. International Meeting on New Strategies in Bioremediation Processes (BioRemid). 2017. Granada (España). Póster.
- Cabrerizo MJ, Medina-Sánchez JM, Villar-Argaiz M, Carrillo P. Accumulative impact of multiple global-change stressors modulates the phytoplankton-bacteria interaction. X Symposium for European Freshwater Sciences. 2017. Olomouc (Czech Republic). Oral presentation.
- González-Olalla JM, Medina-Sánchez JM, Margenet V, Carrillo P. Mixotrophy is questioned under global change: UVR induces negative effect at high temperatures. X Symposium for European Freshwater Sciences. 2017. Olomouc (Czech Republic). Oral presentation.
- Lozano IL, Medina-Sánchez JM, González-Olalla JM, Cabrerizo MJ, Villar-Argaiz M, Carrillo P. Phytoplankton-bacteria coupling: New insights on a reviewed topic. X Symposium for European Freshwater Sciences. 2017. Olomouc (Czech Republic). Oral presentation.

C.6. Gestión universitaria

- Secretario del Departamento de Ecología. 26/05/2022 a la actualidad.
- Miembro de Comisión Académica del Programa de Doctorado en Biología Fundamental y Sistemas (2015/2016 a la actualidad).
- Miembro de la Comisión Académica del Máster en Conservación, Gestión y Restauración de la Biodiversidad (2016/2017 a 2020/2021).
- Miembro de Junta Directiva del Instituto del Agua. 01/03/2009 al 19/01/2012.

C.8. Divulgación científica y ciencia ciudadana

- Miembro permanente del equipo investigador de la campaña de Ciencia Ciudadana “74 Oasis Glaciares de Alta Montaña” <http://lagunasdesierranevada.es>
- Participación en “II y III Jornadas Lagunas de Sierra Nevada”. Campaña de Ciencia Ciudadana “74 Oasis Glaciares de Alta Montaña”. Albergue Universitario de Sierra Nevada (2021, 2022)
- Ponente en “Pint of Science Festival” España. Temática: “Sierra Nevada: Cambio climático y evolución” (Las “bolas de cristal” del cambio climático). Granada. 2022
- Vídeo promocional de “La Noche Europea de los Investigadores” Medina-Sánchez JM. 2019. Youtube, canal UGRmedia. <https://youtu.be/-lvQBg9N1ZU>
- Participación en “La Noche Europea de I@s Investigador@s”. Fundación Descubre. Granada. Ediciones 2018, 2019, 2021.
- Participación en “Desgranando Ciencia” ediciones 5 y 3. Asociación Hablando de Ciencia. Granada, 2019, 2016.

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Parte A. DATOS PERSONALES

Fecha del CVA	17-10-2022
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Nombre y apellidos	Carmen Pérez-Martínez		
DNI/NIE/pasaporte			
Núm. identificación del investigador	Researcher ID	ResearcherID: K-1219-2014	
	Código Orcid	http://orcid.org/0000-0001-8777-4487	

A.1. Situación profesional actual

Organismo	Universidad de Granada		
Dpto./Centro	Ecología		
Dirección	Facultad de Ciencias , Avda. Fuentenueva . 18071 Granada		
Teléfono			
Categoría profesional	Catedrática universidad	Fecha inicio	20-12-2019
Espec. cód. UNESCO	250805, 250808		
Palabras clave	Ecología, Limnología, Paleolimnología, lagos alpinos		

A.2. Formación académica (título, institución, fecha)

Licenciatura/Grado/Doctorado	Universidad	Año
Licenciada en Ciencias Biológicas	Universidad Granada	1987
Doctora en Ciencias Biológicas	Universidad Granada	1992

RESUMEN LIBRE DEL CURRÍCULUM

Mi formación académica ha tenido lugar principalmente en la Universidad de Granada con varios años de estancias en otros centros en el extranjero. En 1995 obtuve mi primer contrato como profesora en el Dpto. de Ecología, en el que he permanecido hasta la actualidad. Mi actividad docente se ha centrado fundamentalmente en las materias de Ecología como Ecología de Sistemas, Limnología y Paleolimnología en el Grado en Biología y diversos másteres.

Durante los primeros años mi investigación se centró en el análisis de los efectos de la fertilización y presión de herbivoría sobre comunidad fitoplanctónica mediante técnicas experimentales *in situ*. Posteriormente me formé en el cultivo de laboratorio de especies algales y microinvertebrados y la experimentación en laboratorio durante mi estancia posdoctoral en Holanda. Estas técnicas las apliqué a la vuelta a España montando los laboratorios de cultivos que aún hoy persisten y me han permitido abordar diferentes trabajos de investigación centrados en la depuración de aguas residuales y ciclos de vida de especies cladóceros. Este último aspecto ha ocupado una parte importante de mi investigación en los últimos años y me condujo, mediante el estudio de formas de resistencia, a la investigación del sedimento lacustre. En la última década he comenzado una nueva línea de investigación dedicada a la Paleolimnología y centrada en los estudios en el Antropoceno, para lo cual realicé una estancia en el PEARL (Canadá).

A lo largo de toda mi vida laboral he realizado actividades de gestión universitaria, fundamentalmente a nivel del Grado en Biología, del que soy la actual responsable.

ACTIVIDAD DOCENTE

Tengo reconocidos seis quinquenios de docencia

He impartido docencia en grado (Biología y Ciencias Ambientales) y posgrado en Universidad desde el curso 1995-96.

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Las asignaturas principales en grado han sido Ecología de Poblaciones y Comunidades y Ecología de Sistemas así como la optativa Limnología. En Posgrado asignaturas relacionadas con Limnología, Paleolimnología y Cambio global.

He realizado proyectos de innovación docente, publicaciones docentes y diversos cursos de especialización como los del Centro Mediterráneo de la UGR, Universidad Internacional Antonio Machado de Baeza y Programa de Cooperación (PCI-AECI), entre otros.

ACTIVIDADES DE GESTIÓN

He sido investigadora principal en 6 proyectos de investigación

Representante en la Comisión Docente del Grado en Biología. Curso 2003-04 a curso 2017-18.

Coordinadora de la Comisión PAT (Plan de Acción Tutorial) de la Comisión Docente del Grado en Biología. Curso 2008-09, 2009-10 y 2013-14.

Miembro de la Comisión TFG (Trabajo Fin de Grado) en la Comisión Docente del Grado en Biología. Curso 2012-13 a 2018-19.

Secretaria de la Comisión Docente del Grado en Biología. 20 enero 2017 a 31 agosto 2018.

Como Secretaria de la CDB, además de miembro responsable de la Comisión TFG, he sido miembro de la Comisión Permanente y de la Comisión Interna de Garantía de la Calidad.

Miembro electo de la Junta de Centro de la Facultad de Ciencias de la UGR. 1 abril 2004 hasta 24 abril 2016.

Miembro electo del Claustro de la Universidad de Granada. 1 julio de 2008 a 10 junio de 2010.

En la actualidad soy la Coordinadora del Grado en Biología desde el 6 febrero 2021-actualidad

ACTIVIDAD INVESTIGADORA

Número de sexenios de investigación reconocidos = 5

1. Peñas, F.J. et al. (2022) Monitoring global change effects on freshwater ecosystem: An insight fromILTER nodes and mountain National Parks. *Biodiversity and Conservation* (in press).
2. Pérez-Martínez, C., Conde-Porcuna, J.M., Ramos-Rodríguez, E., Moreno, E., Rühland, K.M., Jeziorski, A. Smol, J.P., García-Alix, A., Heiri, O.H., Corral Arredondo, E. & Jiménez, L. (2022). Paleolimnological indicators of global change. In: *The landscape of Sierra Nevada: A unique laboratory of global processes*, Zamora, R. & Oliva, M. (eds.). Springer, Cham. (pp. 279-291). ISBN 978-3-030-94218-2.
3. Conde-Porcuna, J. M., Veiga, J., Moreno, E., Jiménez, L., Ramos-Rodríguez, E. & Pérez-Martínez, C. (2021) Phylogeny and spatiotemporal genetic patterns in the *Daphnia pulex* complex from Sierra Nevada lakes (Spain): first record of North American *D. pulex* in a European high mountain lake. *Journal of Plankton Research* <https://doi.org/10.1093/plankt/fbab024>
4. López-Rodríguez, M. J., Paz-Moreno, I., Peralta-Maraver, I., Pérez-Martínez, C. & Tierno de Figueroa, J. M. (2021) Experimental evaluation of biodiversity response to dispersal barriers and patch productivity in Mediterranean streams. *Aquatic Sciences* 83(1), 1-10 <https://doi.org/10.1007/s00027-020-00757-5>
5. Del Arco, A., Álvarez-Manzaneda, I., Funes, A., Pérez-Martínez, C. & de Vicente, I. (2021) Assessing the toxic effects of magnetic particles used for lake restoration on phytoplankton: a community-based approach. *Ecotoxicology and Environmental Safety* 207, 111288 <https://doi.org/10.1016/j.ecoenv.2020.111288>
6. Pérez-Martínez, C., Rühland, K. M., Smol, J. P., Jones, V. J., & Conde-Porcuna, J. M. (2020). Long-term ecological changes in Mediterranean mountain lakes linked to recent climate change and Saharan dust deposition revealed by diatom analyses. *Science of The Total Environment*, 138519. <https://doi.org/10.1016/j.scitotenv.2020.138519>
7. García-Alix, A., Toney, J. L., Jiménez-Moreno, G., Pérez-Martínez, C., Jiménez, L., Rodrigo-Gámiz, M., Anderson, R. S., Camuera, J., Jiménez-Espejo, F. J., Peña-Angulo, D. & Ramos-Román, M. J. (2020) Extreme warming rates affecting alpine areas in SW Europe deduced from algal lipids, *Climate of the Past* 16, 245–263. <https://doi.org/10.5194/cp-2019-98>.
8. Pérez-Martínez, C., Conde-Porcuna, J. M., Moreno, E., Ramos-Rodríguez, E. & Jiménez, L. (2020) Cladoceran assemblage distribution in shallow alpine lakes of Sierra Nevada (Spain) and its relationship with environmental variables. *Aquatic Sciences* 82:4. <https://doi.org/10.1007/s00027-019-0677-5>

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9. Burillo, J. P., Jiménez, L. & Pérez-Martínez, C. (2019) Identifying invasive morphological analysis of postabdominal claws in Sierra Nevada alpine lakes. *Journal of Paleolimnology* 62: 121-135. <https://doi.org/10.1007/s10933-019-00078-0>
10. Jiménez, L., Conde-Porcuna, J. M., Heiri, O., Anderson, R. S., Toney, J. L., García-Alix, A. & Pérez-Martínez, C. (2019) Ecosystem responses to climate-related changes in a Mediterranean alpine environment over the last ~180 years. *Ecosystems* 22: 563-577. <https://doi.org/10.1007/s10021-018-0286-5>
11. Jiménez L., Rühland, K.M., Jeziorski, A., Smol, J. P. & Pérez-Martínez, C. (2018) Climate change and Saharan dust drive recent cladoceran and primary production changes in remote alpine lakes of Sierra Nevada, Spain. *Global Change Biology* 24:e139–e158. <https://doi.org/10.1111/gcb.13878>
12. Morales-Baquero, R. and Pérez-Martínez, C. (2016). Saharan versus local influence on atmospheric aerosol deposition in the Southern Iberian Peninsula: significance for N and P inputs. *Global Biogeochem. Cycles*, 30, <https://doi.org/10.1002/2015GB005254>.

Proyectos

Efectos del cambio climático en los ecosistemas acuáticos y terrestres de alta montaña de Sierra Nevada mediante el análisis del registro fósil en los sedimentos 2007-2011

Entidad financiadora: MMA, Organismo Autónomo Red Parques Nacionales
 Entidades participantes: Univ. Granada, Univ. Almería, Univ. Valencia, // Utrecht University (Países Bajos), Northern Arizona University (USA).
 Investigadora responsable: Carmen Pérez Martínez
 Número de investigadores participantes: 9
IMPORTE TOTAL DEL PROYECTO: 59.840,25 €

Patrones temporales en la biogeoquímica y biota de las lagunas de Sierra Nevada: aproximación desde la Paleolimnología (BIOPAL) 2012-2014

Entidad financiadora: MICINN CGL2011-23483
 Entidades participantes: Univ. Granada y Queen’s University (Kingston, Ontario, Canadá)
 Investigador responsable: Carmen Pérez Martínez
 Investigadores participantes: 7
IMPORTE TOTAL DEL PROYECTO: 84.700 €

TÍTULO DEL PROYECTO Lagos centinelas de cambio global en los Parques Nacionales: análisis multidisciplinar de los últimos 6000 años. 2020-2022

OAPN Ref: 2403-S/2017
 Duración: 2020-2022
 IP: Dra. Carmen Pérez Martínez (Subproyecto Limnología)
IMPORTE TOTAL DEL PROYECTO: 108.700 €

Patentes

oepm: p200202728 ES 2 217 945
 Procedimiento para la depuración de aguas residuales (retirada de nitrógeno y fósforo) por microalgas bentónicas inmovilizadas
 Titular/es: PIGCHAMP PRO EUROPA S.A. Almira, 28 40001 Segovia, ES
 Inventor/es: Jiménez Pérez, María del Valle; Pérez Martínez, Carmen y Sánchez Castillo, Pedro
 Fecha de la concesión: 08.09.2005

Estancias en Centros extranjeros de investigación:

PEARL -Paleoecological Environmental Assessment and Research Laboratory, Department of Biology, Queen's University, Kingston Ontario, Canada, 1 abril -1 diciembre 2010.

Investigadora visitante- Ayuda del Ministerio de Ciencia e Innovación- Programa Nacional de Movilidad de Recursos Humanos de Investigación.

Recent Environmental Change and Biodiversity (RECB), Environmental Change Research Centre, **Dept. of Geography, University College of London (UK).**

1 enero 2019- 30 junio 2019. 10 meses

Ayuda del Plan Propio de la Universidad de Granada (Programa Sabáticos)

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Part A. PERSONAL INFORMATION

CV date 03/10/2022

First and Family name	Eduardo Moisés García-Roger		
Social Security, Passport, ID number		Age	
Researcher codes	Open Researcher and Contributor ID (ORCID**)	0000-0001-7112-8464	
	SCOPUS Author ID (*)		
	WoS Researcher ID (*)	I-7642-2012	

(*) *Optional*
(**) *Mandatory*

A.1. Current position

Name of University/Institution	University of Valencia		
Department	Institute Cavanilles of Biodiversity and Evolutionary Biology (ICBIBE)		
Address and Country	C/ Catedrático José Beltrán Martínez, 2, 46980 Paterna (Valencia)		
Phone number	(+34)963543663	E-mail	eduardo.garcia@uv.es
Current position	Associate professor	From	30/11/2020
Key words	Population ecology, Life-history traits, Time-varying habitats, Environmental unpredictability, Bet hedging, Diapause		

A.2. Education

PhD, Licensed, Graduate	University	Year
PhD in Biology (Biodiversity and Evolutionary Biology)	University of Valencia	2007
Graduate in Biology	University of Valencia	2000

A.3. General indicators of quality of scientific production (see instructions)

- *Sexennial periods of research activity that have received positive evaluation by the Comisión Nacional de Evaluación de la Actividad Investigadora: 2; Last six-year period awarded: 2015-2020 (positively evaluated in 31/05/2021).*
- *PhD theses supervised (01/01/2010-3/10/2022): 1 thesis defended and 3 ongoing.*
- *JCR (Web of Science) papers: 40 papers; 17 Q1 (42.5%), 21 Q2 (52.5%), and 2 Q4 (5%), according to JCR ranking in the year of publication.*
- *Citations: 1013 (Web of Science), 1403 (Google Scholar).*
- *Average citations per article: 25.33 (Web of Science).*
- *Average citations per year: 56.28 (Web of Science).*
- *h index: 18 (Web of Science); 22 (Google Scholar).*
- *i10 index: 30 (Google Scholar).*

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

Currently, I am an Associate Professor at the University of Valencia (UV), in the Department of Microbiology and Ecology, where I teach lessons of Ecology in the degrees of Biology and Environmental Sciences.



My research focuses on Population Biology and Evolutionary Ecology of aquatic organisms, with special emphasis on life history traits associated with fluctuating environments. This research integrates field studies, laboratory experimentation and modeling, and is included within the line of work of the Evolutionary Ecology group of the Institut Cavanilles de Biodiversitat i Biologia Evolutiva (ICBiBE - UV).

Since I started my PhD thesis to date, I have had continued competitive funding, through 1 FPU predoctoral grant (2001-2004), 2 research contracts at UV (2006-2008), and 1 post-doctoral contract (2008-2010) at the Universitat de Barcelona (UB) under a project of the VII EU Framework Programme, as well as participating as a member of the research team in a total of 7 projects of the National R+D+i Plan, 2 projects of the Strategic Science and Technology Programme of the Valencian regional government, and 1 project of the National Science Foundation (USA) (see more details in C.2.). These projects - especially the international ones - have allowed me to expand my network of collaborations with other prestigious research groups. I would also like to point out that I have been the IP of a pre-competitive project of the UV Research Grants Program.

I am author/co-author of 40 scientific articles in international peer-reviewed journals, all with impact index, and most of them belong to the Q1 or Q2 of their respective topics (Evolution, Ecology and Limnology, fundamentally). Most of my publications focus on the study of diapause and patterns of sexual reproduction in populations of cyclic parthenogenetic rotifers, the results of which have served to inspire the objectives of the project now being requested. An outstanding part of my curriculum - which is evident in the publications - is my ability to integrate experimental studies with mathematical modeling of biological systems, without neglecting the statistical analysis of data using generalized linear and mixed-effect models.

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Publications *(10 selected papers in the last 10 years)*

1. Tarazona, E., J.I. Lluçàs-Lledó, M.J. Carmona, **E.M. García-Roger** (2020). Gene expression in diapausing rotifer eggs in response to divergent environmental predictability regimes. *Scientific Reports* (in press).
2. **García-Roger, E.M.**, E. Lubzens, D. Fontaneto, M. Serra (2019). Facing adversity: Dormant embryos in rotifers. *Biological Bulletin* 237: 119-144.
3. Franch-Gras, L, E. Tarazona, **E.M. García-Roger**, M.J. Carmona, A. Gómez, M. Serra (2019). Rotifer adaptation to the unpredictability of the growing season. *Hydrobiologia* 844: 257-273.
4. Franch-Gras, L., C. Hahn, **E.M. García-Roger**, M.J. Carmona, M. Serra, A. Gómez (2018) Genomic signatures of local adaptation to the degree of environmental predictability in rotifers. *Scientific Reports*. 8 - 1, pp. 16051.
5. **García-Roger, E.M.**, R. Ortells (2018). Trade-offs in rotifer diapausing egg traits: survival, hatching and lipid content. *Hydrobiologia* 805: 339-350.
6. **García-Roger, E.M.**, M.J. Carmona, M. Serra (2017). Modes, mechanisms and evidence of bet hedging in rotifer diapause traits. *Hydrobiologia* 796: 223 - 233.
7. Tarazona, E., **E.M. García-Roger**, M.J. Carmona (2017). Experimental evolution of bet hedging in rotifer diapause traits as a response to environmental unpredictability. *Oikos*, 126: 1162-1172.



8. Franch-Gras, L., **E.M. García-Roger**, M. Serra, M.J. Carmona (2017). Adaptation in response to environmental unpredictability. Proceedings of the Royal Society of London B. 284(1868): 20170427.
9. Martínez-Ruiz, C., **E.M. García-Roger** (2015). Being first increases the probability of long diapause in rotifer resting eggs. Hydrobiologia 745: 111-121.
10. **García-Roger, E.M.**, M. Serra, M.J. Carmona (2014). Bet-hedging in diapausing egg hatching of temporary rotifer populations - A review of models and new insights. International Review of Hydrobiology 99: 96-106.

C.2. Research projects

1. Adaptation to predictable and unpredictable environmental variation in rotifers: integrated strategies and time scales (PID2020-114153GB-I00). Ministry of Science and Innovation PIs: **E.M. García-Roger** and M.J. Carmona. Duration: 01/09/2021-31/08/2023. Funding: 136.367 €.
2. Environmental unpredictability and counteracting effects on sex response in rotifers (CGL2015-65422-P). Spanish Ministry of Economy, Industry and Competitiveness PIs: M.J. Carmona and M. Serra. Duration: 3 years, 01/01/2016-31/12/2018. Funding: 113.740 €.
3. Adaptation to environmental unpredictability in rotifer populations (CGL2012-30779). Spanish Ministry of Economy and Competitiveness. PI: M.J. Carmona. Duration: 01/01/2012-31/12/2015. Funding: 136.890 €.
4. Bet-hedging strategies in diapausing egg hatching in temporary rotifer populations (UV-INV-PRECOMP12-80525). Universitat de València. PI: **E.M. García-Roger**. Duration: 01/01/2012-31/12/2012. Funding: 3.860 €.
5. Implications of the environmental and demographic fluctuations on the coexistence of cryptic rotifer species (CGL2009-07364). Spanish Ministry of Economy and Competitiveness. PI: M. Serra. Duration: 01/01/2010-31/12/2012. Funding: 169.400 €.
6. Mediterranean Intermittent River ManAGEment (MIRAGE UE 211732). VII Framework European Commission. PIs: N. Prat (Univ. Barcelona) and J. Froebrich (NETH., Wageningen). Duration: 01/01/2009-31/12/2012. Funding 139.830 €.
7. Ecology and the evolution of sex in rotifers (CGL2006-07267). Spanish Ministry of Education and Science. PI: M.J. Carmona. Duration: 01/10/2006 -31/09/2009. Funding: 60.500 €.
8. Sexual reproduction and divergence among rotifer populations. (Complementary grant to the project EF-0412674 of the NSF) (CGL2007-29830-E/BOS). Spanish Ministry for Education and Science. PI: M. Serra. Duration: 2007. Funding: 10.000 €.
9. A Biochemical, Genetic, and Genomic Investigation of the Evolution and Ecology of Sexual Reproduction (EF-0412674; Spanish Group PI: M. Serra). National Science Foundation (USA). Duration: 01/01/2005-31/08/2009. Funding: 47.865 €.

C.3. Scientific dissemination and technology transfer activities

Popular science articles



1. Serra, M, M.J. Carmona, **E.M García-Roger** and R. Ortells, 2020. Surviving uncertainty. Biodiversity, adaptation, and environmental fluctuation in rotifers. *Mètode Annual Review*. 10: 183-191.

Organization and participation in scientific communication events

1. Open day of the Science Park of the University of Valencia “Expociencia”, 2010.

C.4. Stays in foreign research centres

1. Centre: Marine Biological Laboratory.
City: Woods Hole (Massachussets)
Country: USA
Year: 2011. Duration: 2 Months
Research topic: *A first approach to the functional annotation of the trasncriptome in the rotifer Brachionus manjavacas. Genomics and Bioinformatics*
2. Centre: School of Biological, Biomedical and Environmental Sciences - University of Hull
City: Kingston-upon-Hull
Country: UK
Year: 2013. Duration: 3 Months
Research topic: *Using RADseq Second End reads for the identification of sex-linked markers in adrodioecious and gonochoric populations of Triops cancriformis (Notostraca).*

C.5. Experience in the organization of I+D events

1. 5th Scientific Meeting of the Cavanilles Institute of Biodiversity and Evolutionary Biology (ICBiBE): 20 years of ICBiBE: the crossroads between diversity and evolution, 2018. Type of activity: Coordinator of the Organizing Committee.

C.6. Scientific, technical and/or assessment committees

1. Member of committees to judge open examination for Spanish University professor (Associate and Tenure-track lecturer). 2018, 2019, 2021, 2022.
2. Member of 7 PhD committees (6 national + 1 international)

C.7. Institutional responsibilities (statutory positions in the last 10 years)

1. Vice-dean of Academic Studies of the Faculty of Biology at the University of Valencia (from 2018.03.01 to the date).

C.7. Memberships of scientific societies

1. Asociación Ibérica de Limnología (since 2009 to the date)
2. British Ecological Society (since 2013 to the date)

C.8. Awards

1. Extraordinary Doctoral Award (2008). Section: Natural Sciences. University of Valencia.



Fecha del CVA

Parte A. DATOS PERSONALES

Nombre	M ^a GEMA		
Apellidos	PARRA ANGUIA		
URL Web			
Dirección Email	gparra@ujaen.es		
Open Researcher and Contributor ID (ORCID)	0000-0002-4519-4799		

A.1. Situación profesional actual

Puesto	PROFESORA TITULAR DE UNIVERSIDAD (Universidad de Jaen, Departamento Biología animal, Biología Vegetal y Ecología)		
Fecha inicio	2002		
Organismo / Institución	UNIVERSIDAD DE JAÉN		
Departamento / Centro	BIOLOGÍA ANIMAL, BIOLOGÍA VEGETAL Y ECOLOGÍA / FACULTAD DE CIENCIAS EXPERIMENTALES		
País	España	Teléfono	
Palabras clave	Salud y ambiente (protección ambiental); Ecotoxicología; Cambio global; Ecología acuática; Educación medioambiental		

A.2. Situación profesional anterior (incluye interrupciones en la carrera investigadora - indicar meses totales, según texto convocatoria-)

Periodo	Puesto / Institución / País
2020 -	Vicedecana de Asuntos Generales / Universidad de Jaén

A.3. Formación académica

Grado/Master/Tesis	Universidad / País	Año
BIOLOGÍA ANIMAL, VEGETAL Y ECOLOGÍA (CIENCIAS DEL MAR)	Universidad de Cádiz	1998
LICENCIADO EN BIOLOGÍA ESPECIALIDAD EN BIOLOGÍA MARINA	Universidad de La Laguna	1994

Parte B. RESUMEN DEL CV

ACTIVIDAD INVESTIGADORA: Desde la incorporación a la Universidad de Jaén y al grupo de investigación de Ecología y Biodiversidad de Sistemas Acuáticos (RNM300) en el año 2000, me he dedicado a desarrollar la línea de investigación de ecotoxicológica, centrada en el estudio de los efectos de xenobióticos sobre la comunidad acuática. La pérdida de biodiversidad en sistemas acuáticos tan afectados por la actividad humana como los humedales, ha centrado muchos de los estudios desarrollados en el seno del grupo de investigación. Con una visión holista del sistema y su entorno, hemos analizado la repercusión de la actividad humana sobre todos sus componentes y principalmente sobre la comunidad planctónica. Los estudios de ecotoxicología nos están permitiendo obtener información suficiente para poder transmitir resultados, realizar propuesta de uso de bioindicadores y biomarcadores y ayudar en la toma de decisiones. La ampliación en la escala espacial del problema ambiental ha permitido involucrar nuestra investigación en otros problemas de cambio global, intentando analizar la repercusión que algunas de las estrategias diseñadas para solucionarlos pueden ocasionar en los ecosistemas (por ejemplo: estrategia de captación y secuestro de CO₂). He sido investigadora principal de 5 proyectos, uno de ámbito internacional, dos de ámbito nacional, y dos de ámbito local. He mantenido contacto con grupos internacionales mediante estancias tanto predoctorales como postdoctorales (Marine Science Institute, Port Aransas, USA, 1995; National Center of Mariculture, Elat, Israel,

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1996; Zoology Department in Bergen University, Noruega, 1997; Departamento de Zoología, Universidad de Lisboa, Portugal 2001; Cork University, Irlanda, 2010; Bournemouth University, UK, 2012). En los últimos años, con las Universidades de Plymouth (UK), Esslingen (Alemania) y Maastricht (Holanda), con las que participado en un proyecto europeo de ERASMUS + centrado en la inclusión de la sostenibilidad en el curriculum del grado de enfermería a nivel europeo (2014-2018). Este proyecto ha sido galardonado con el premio a la sostenibilidad por el periodo británico The Guardian. Además, participo en la red COST ENEC (European Network for Environmental Citizenship) desde 2017 como miembro de MC sustituto. De la actividad de esta red se ha publicado un libro, en el que participo como autora en dos capítulos del mismo. Actualmente soy líder de un paquete de trabajo dentro en proyecto H2020 (PRIMA) con el objetivo de identificar las barreras que existen para la implementación de soluciones tecnológicas sostenibles en la agricultura del olivar (SUSTAINOLIVE). Soy miembro del proyecto BreStress, liderado por el ICMAN-CSIC, centrado en contaminación, selección de hábitat y comportamiento. Recientemente también participo del proyecto FEDER, sobre soluciones de mitigación y análisis del riesgo de inundaciones. Y en el proyecto de ciencia ciudadana sobre especies invasoras en sistemas de regadío. Cuento con tres sexenios y 5 tramos de investigación autonómicos reconocidos.

ACTIVIDAD DOCENTE Y FORMATIVA. He participado regularmente en docencia no reglada y reglada desde el año 1999 en la Universidad de Jaén, impartiendo una gran diversidad de asignaturas tanto de grado como de postgrado. Participo en el programa de doctorado del CEACTierra y master de la UJA (Análisis, Conservación y Restauración de Componentes Físicos y Bióticos de los Hábitats). He impartido docencia en un máster Univ. Internacionalde Andalucía y en el master IDEA de la Universidad de Granada. En la actualidad poseo 5 quinquenios docentes reconocidos. Mi actividad docente ha sido clasificada como EXCELENTE por el programa DOCENTIA en 2015 y 2019. He dirigido 20 tesinas, DEAs, y trabajos de fin de grado y de máster, los resultados de algunos de ellos han sido publicados en revistas científicas. He dirigido 2 tesis doctorales, con mención internacional y de calidad, actualmente dirijo otra en curso. El primer doctorando, Enrique García, consiguió una vez finalizada la Tesis una beca postdoctoral en Portugal. La segunda Doctoranda, Ana del Arco, después de una estancia postdoctoral en la Universidad de Granada, trabaja actualmente como investigadora principal de proyecto en la Universidad de Kosntanz en Alemania. He participado en 5 proyectos de INNOVACIÓN DOCENTE, obtenido un premio de innovación docente en uno ellos. Desde 2012 formo parte del programa PATIE de internacionalización de las asignaturas de la UJA, soy responsable de una asignatura con grupo de bilingüismo desde 2013 y coordino varios convenios ERASMUS. He recibido el reconocimiento a las Buenas Prácticas Docentes durante el curso académico 2014-2015 en la Universidad de Jaén. Actualmente soy Vicedecana de Asuntos Generales Facultad de Ciencias Experimentales, con competencias en movilidad del alumnado.

Parte C. LISTADO DE APORTACIONES MÁS RELEVANTES

C.1. Publicaciones más importantes en libros y revistas con “peer review” y conferencias

AC: Autor de correspondencia; (nº x / nº y): posición firma solicitante / total autores. Si aplica, indique el número de citaciones

- Artículo científico.** (AC); LUIS JOAQUIN LPOEZ-GARCIA; JOSE A PIQUERAS; ROBERTO GARCÍA. (1/4). 2022. Identification of Farmers' Barriers to Implement Sustainable Management Practices in Olive Groves SUSTAINABILITY. MDPI. 14, pp.6451. <https://doi.org/10.3390/su14116451>
- Artículo científico.** EVA; LAURA; CARMEN; GEMA; ISABEL. (4/). 2022. Effects of climate change in the elderly's health: a scoping review protocol.BMJ Open. e058063. 12-4. <https://doi.org/10.1136/bmjopen-2021-058063>
- Artículo científico.** (AC). (1/10). 2021. The future of temporary wetlands in drylands under global change.INLAND WATERS. <https://doi.org/10.1080/20442041.2021.1936865>



- 4 **Artículo científico.** GEMA PARRA ANGUIA. (5/6). Environmental Citizenship in Education: The Potential of the Sustainability Consciousness Questionnaire to Measure Impact of Interventions SUSTAINABILITY. 13, pp.11420. <https://doi.org/10.3390/su132011420>
- 5 **Artículo científico.** M^a Eugenia López Valcárcel; (AC); Ana I Del Arco Ochoa. (2/3). 2021. Environmental disturbance history undermines population responses to cope with anthropogenic and environmental stressors CHEMOSPHERE. 2662. ISSN 00456535. <https://doi.org/10.1016/j.chemosphere.2020.128373>
- 6 **Artículo científico.** Cristiano Araujo; Abdelmourhit Laissaoui; Daniel Silva; et al; (AC);. (9/15). 2020. Not Only Toxic but Repellent: What Can Organisms' Responses Tell Us about Contamination and What Are the Ecological Consequences When They Flee from an Environment? Toxics. 8-4, pp.118-140.
- 7 **Artículo científico.** Luciana Gomes Barbosa; C Amorin; Gema Parra Anguita; J Laço Portinho; M Morais; E Morales; R Menendez. (2/7). 2020. Advances in limnological research in Earth's drylands INLAND WATERS. <https://doi.org/10.1080/20442041.2020.1728179>
- 8 **Artículo científico.** David Espinoza Villalobos. (2/2). 2020. Effects of CO2-driven acidification on the ostracod Cypridopsis vidua: what are its likely environmental consequences? Toxicological and Environmental Chemistry. 102-5-6, pp.284-301. ISSN 02772248. <https://doi.org/10.1080/02772248.2020.1779723>
- 9 **Artículo científico.** MERCEDES CONRADI; EMILIO MOYANO; KHURSHID BUIYAN; et al; ;. (8/9). 2019. Intraspecific variation in the response of the estuarine European isopod Cyathura carinata (Kroyer, 1847) to ocean acidification SCIENCE OF THE TOTAL ENVIRONMENT. 683, pp.134-145. <https://doi.org/10.1016/j.scitotenv.2019.05.227>
- 10 **Artículo científico.** MERCEDES CONRADI; EMILIO MOYANO; ANDREA GALOTTI; et al; ;. (7/9). 2019. CO2 leakage simulation: Effects of the decreasing pH to the survival and reproduction of two crustacean species MARINE POLLUTION BULLETIN. 143, pp.33-41. WOS (1) <https://doi.org/10.1016/j.marpolbul.2019.04.020>
- 11 **Artículo científico.** Ana Isabel del Arco Ochoa; Francisco Guerrero Ruiz; Francisco Jiménez Gómez; Gema Parra Anguita. 2019. Plankton community responses to environmentally-relevant agrochemical mixtures. International Journal of Limnology. 5, pp.1-5.
- 12 **Artículo científico.** Enrique García Muñoz; Francisco Guerrero Ruiz; Garbiñe Arechaga; (AC). (4/4). 2019. Does wetland watershed land use influence amphibian larval development? A relevant effect of agriculture on biota Journal of Oceanology and Limnology. Springer. 37-1, pp.160-168. <https://doi.org/10.1007/S00343-019-7378-8>
- 13 **Artículo científico.** (AC); ANDREA GALOTTI. (1/2). 2021. Metacyclops minutus and Daphnia magna interspecific competition coefficients under CO2-mediated acidification FUNDAMENTAL AND APPLIED LIMNOLOGY. 195, pp.143-152. <https://doi.org/10.1127/fal/2021/1391>
- 14 **Artículo científico.** ANDREA GALOTTI; FRANCISCO JIMÉNEZ-GÓMEZ; GEMA PARRA. 2020. Flow cytometry assessment of microalgae physiological alterations under CO2-injection CYTOMETRY PART A. WILEY. <https://doi.org/DOI:10.1002/cyto.a.24028>
- 15 **Artículo científico.** Gema Parra Anguita; Valeria Acevedo García; M^a Eugenia López Valcárcel; Ana Isabel del Arco Ochoa. 2019. ECOTOXICOLOGICAL ANALYSIS OF THE FUNGICIDE PHOSPHITE OF SODIUM ON A PLANKTONIC COMMUNITY Revista Internacional de Contaminación Ambiental. 35-1, pp.151-163.

C.3. Proyectos o líneas de investigación

- 1 **Proyecto.** CA21134, TOWARDS ZERO PESTICIDE AGRICULTURE : EUROPEAN NETWORK FOR SUSTAINABILITY. Comisión Europea. (INRAE). 13/07/2022-13/07/2026. Comité de Gestión.
- 2 **Proyecto.** AMPLIANDO LA PERSPECTIVA SOBRE ESTRÉS AMBIENTAL EN LOS ECOSISTEMAS ACUÁTICOS DEBIDO A LA CONTAMINACIÓN: UN ENFOQUE USANDO LA SELECCIÓN DE HÁBITAT EN UN BALANCE COSTE-BENEFICIO (BRESTRESS). Ministerio de Ciencia e Innovación. Universidades. Araujo. (ICMAN-CSIC). 01/06/2020-31/05/2023. 90.000 €. Miembro de equipo.



- 3 **Proyecto.** SUSTAINOLIVE. Novel approaches to promote the Sustainability of OLIVE cultivation in the Mediterranean. Comisión Europea. ROBERTO GARCIA. (Universidad de Jaén). 01/06/2019-31/05/2023. 2.100.000 €. Miembro de equipo.
- 4 **Proyecto.** CA16229, EUROPEAN NETWORK FOR ENVIRONMENTAL CITIZENSHIP. UNIÓN EUROPEA. (Cyprus Centre for Environmental Research and Education.). 04/09/2017-26/04/2022. 140.000 €. Miembro de equipo.
- 5 **Proyecto.** 2016/00216, EFECTOS SOBRE LA COMUNIDAD PLANCTÓNICA DE LA ACIDIFICACIÓN POR CO₂: ENSAYOS ECOTOXICOLÓGICOS EN MICROCOSMOS. UNIVERSIDAD DE JAEN. MARÍA GEMA PARRA ANGUITA. (UNIVERSIDAD DE JAÉN). 01/06/2016-31/12/2017. 18.400 €. Investigador principal.
- 6 **Proyecto.** CTM2012-36476-C02-02, DISEÑO Y OPTIMIZACIÓN DE TECNOLOGIAS AMBIENTALES MEDIANTE SIMULACIONES DE LABORATORIO DE EFECTOS CRÓNICOS Y DE CICLO DE VIDA DE ESPECIES BENTÓNICAS Y PLANCTÓNICAS. MINISTERIO DE ECONOMÍA Y COMPETITIVIDAD. MARÍA GEMA PARRA ANGUITA. (UNIVERSIDAD DE JAÉN). 01/01/2013-31/12/2015. 92.000 €. Investigador principal.
- 7 **Proyecto.** 2014-1-UK01-KA203-001645, NURSUSTOOLKIT: A TEACHING AND LEARNING RESOURCE FOR SUSTAINABILITY IN NURSING. ERASMUS+. Richardson. (UNIVERSITY OF PLYMOUTH). Desde 01/09/2014. 448.024 €. Miembro de equipo.
- 8 **Contrato.** Alterra Project 5240485-01 (Chimera) 23/10/2013-22/01/2014. 3.000 €.

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En calidad de: Solicitante





CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION

CV date 30/09/2022

First name	Inmaculada		
Family name	de Vicente Álvarez-Manzaneda		
Gender (*)		Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail	ivicente@ugr.es	URL Web	https://ecologia.ugr.es/pages/personal/profesorado/i_de_vicente
Open Researcher and Contributor ID (ORCID) (*)	0000-0002-1449-5740		

(*) *Mandatory*

A.1. Current position

Position	Professor		
Initial date	July 23rd, 2021		
Institution	University of Granada		
Department/Center	Ecology	Faculty of Sciences	
Country	Spain	Teleph. number	+34958249768
Key words	Limnology, eutrophication, restoration ecology, biogeochemistry, sediments, catchment land-uses		

A.2. Previous positions (research activity interruptions, art. 14.2.b)

Period	Position/Institution/Country/Interruption cause
2000-2004	Ph D student/ University of Granada/ Spain
2005-2007	Hired/ University of Granada/ Spain
2007-2011	Hired/ University of Granada/ Spain
2011-2021	Associate Professor/ University of Granada/ Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Graduate in Environmental Sciences	University of Granada/ Spain	1999
PhD	University of Granada/ Spain	2004

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En calidad de: Solicitante



Part B. CV SUMMARY (max. 5000 characters, including spaces)

Dra. Inmaculada de Vicente is Professor in the Department of Ecology at the University of Granada. In the Web of Science database, she has 56 publications, among them 53 are JCR articles (56.6% in the first quartile; with an average of 16.9 citations per item), 11 national and international book chapters and 74 conference papers international. She has supervised 4 PhD, 20 End-of-Degree Projects (Bachelor /Degree in Environmental Sciences and Biology) and 13 Master Projects. Currently, her research is mainly focused on the use of novel adsorbents such as magnetic and non magnetic particles for improving water quality of both natural aquatic ecosystems and also of treated wastewaters. It is of outstanding concern to consider that the last Thesis that she supervised in closely linked to the convenience of using magnetic particles as phosphorus adsorbents for counteracting the present alteration of phosphorus biogeochemical cycle was assessed. More specifically, the next goals were achieved: (i) to assess the toxicity of novel phosphorus adsorbents used for lake restoration on aquatic biota by using a multi-methodological approach based on standardized laboratory tests (Álvarez-Manzaneda et al., 2017, Journal of Hazardous Materials; Álvarez-Manzaneda and de Vicente, 2017, Chemosphere; del Arco et al., 2018, Ecotoxicology and Environmental Safety; Álvarez-Manzaneda et al., 2019, Chemosphere) and microcosms experiments (Álvarez-Manzaneda et al., 2019, Science of the Total Environment; del Arco et al., 2021, Ecotoxicology and Environmental Safety); (ii) to achieve the efficiency of magnetic particles for trapping phosphorus in secondary municipal effluents which lastly discharge in a Ramsar site (Fuente de Piedra, Málaga, Spain; Álvarez-Manzaneda et al., 2021, Chemosphere) and (iii) to evaluate the viability of recovered phosphorus from a natural eutrophicated ecosystem as a liquid fertilizer (Álvarez-Manzaneda et al., 2021, Journal of Environmental Management).

It is interesting to remark the extensive experience of Inmaculada de Vicente in both national and international collaborations (up to 77 co-authors, SCOPUS database). As an illustration, she has collaborated with members from the Istituto Italiano di Idrobiologia (de Vicente et al. 2006, Journal of Paleolimnology), Florida Atlantic University (Jensen et al. 2009, Limnology and Oceanography); University of Copenhagen (de Vicente et al. 2010a, Hydrobiologia); Department of Environmental Sciences and Cary Institute of Ecosystem Studies (de Vicente et al. 2010b, Hydrobiologia); and Aarhus University (Egemose et al. 2011, Canadian Journal of Fisheries and Aquatic Sciences).

Considering her contributions to society, she has also be enrolled in outreach activities such as "Proyecto de Iniciación a la Investigación e Innovación en Secundaria en Andalucía" (<https://piiisa.es/>) by showing to bachelor students the negative effects of eutrophication in inland aquatic ecosystem through the experimentation. In addition, she has collaborated in two chapters of the Andalusia-Ecology Project which includes a study on the ecology of the Andalusian Community, in seven complete volumes (Hércules Ediciones; ISBN: 978-84-936736-5-9). She has also closely collaborated with different companies focused on the management of water resources (EMASESA, <https://www.emasesa.com/> and Freshwater Research, <http://fwr.ca/>) by different projects and by giving seminars.

Finally, she also has participated in the training of graduates (Azahara Merino Martos, Ana Inmaculada Funes Cabrerizo, Juan Diego Gilbert Rus and Inmaculada Álvarez-Manzaneda Salcedo as well as doctors (Dra. Ana Isabel del Arco Ochoa (01/06/2015-31/01/2017); Dra. Ingrid Fanes Treviño (15/10/2015-14/02/2016) and Dr. Kouassi, N'Guessan Louis Berenger, University of Peleforo Gon Coulibaly, Korhogo (Côte d'Ivoire; 1/03/2019 - 1/05/2019).

PartC. RELEVANT MERITS(sorted by typology)

C.1. Publications (see instructions)



1. Funes, A., J. de Vicente, L. Cruz-Pizarro & **I. de Vicente**. 2014. The influence of pH on manganese removal by magnetic microparticles in solution. *Water Research*, 53: 110-122.
2. Funes, A., J. de Vicente, L. Cruz-Pizarro, I. Álvarez-Manzaneda & **I. de Vicente**. 2016. Magnetic microparticles as a new tool for lake restoration: a microcosm experiment for evaluating the impact on Phosphorus fluxes and sedimentary Phosphorus pools. *Water Research*, 89: 366-374.
3. Funes, A., A.I. del Arco, I. Álvarez-Manzaneda, J. de Vicente & **I. de Vicente**. 2017. A microcosm experiment to determine the consequences of magnetic microparticles application on water quality and sediment phosphorus pools. *Science of the Total Environment*, 579: 245-253.
4. del Arco, A., G. Parra & **I. de Vicente**. 2018. Going deeper into phosphorus adsorbents for lake restoration: Combined effects of magnetic particles, intraspecific competition and habitat heterogeneity pressure on *Daphnia magna*. *Ecotoxicology and Environmental Safety*, 148: 513-519.
5. Álvarez-Manzaneda, I., F. Guerrero, A.I. del Arco, A. Funes, L. Cruz-Pizarro & **I. de Vicente**. 2018. Do magnetic phosphorus adsorbents used for lake restoration impact on zooplankton community? *Science of the Total Environment*, 656: 598-607.
6. Álvarez-Manzaneda, I., A. Baun, L. Cruz-Pizarro & **I. de Vicente**. 2019. Ecotoxicity screening of novel phosphorus adsorbents used for lake restoration. *Chemosphere*, 222: 469-478.
7. del Arco, A., I. Álvarez-Manzaneda, A. Funes, C. Pérez-Martínez & **I. de Vicente**. 2021. Assessing the toxic effects of magnetic particles used for lake restoration on phytoplankton: a community-based approach. *Ecotoxicology and Environmental Safety*, 207: 111288
8. Álvarez-Manzaneda, I., F. Guerrero, L. Cruz-Pizarro, M. Rendón & **I. de Vicente**. 2021. Magnetic particles as new adsorbents for the reduction of phosphate inputs from wastewater treatment plant to a Mediterranean Ramsar wetland (Southern Spain). *Chemosphere*, 270: 128640
9. Funes, A., I. Álvarez-Manzaneda, A. del Arco, J. de Vicente & **I. de Vicente**. 2021. Evaluating the effect of CFH-12® and Phoslock® on phosphorus dynamics during anoxia and resuspension in shallow eutrophic lakes. *Environmental Pollution*, 269: 116093
10. Álvarez-Manzaneda, I., N. Laza, F. B. Navarro, E. M. Suárez- Rey, M. L. Segura & **I. de Vicente**. 2021. Assessing the viability of recovered Phosphorus from eutrophicated aquatic ecosystems as a liquid fertilizer. *Journal of Environmental Management*, 285: 112156

C.2. Congress

- Participation in the organizing committee of international and national Congresses such the *Aquatic Sciences Meeting (ASLO)*. Granada (Spain). 2015
- Attendance to 74 congress since 2000, 25 in the last 10 years.

C.3. Research projects

Title: *Restauración de ecosistemas acuáticos mediante nanopartículas magnéticas: efectos ecotoxicológicos y recuperación del fósforo como fertilizante*

Financial institution: *Ministerio de Economía y Competitividad (CTM2013-46951-R)*

Participants: *University of Granada and University of Jaén*

Date: *2015-2018*

Quantity: *120.000€*

PI: *Dra. Inmaculada de Vicente Álvarez-Manzaneda*



2.- Title: *Nuevas metodologías para la restauración de ecosistemas acuáticos: aplicación de partículas magnéticas*

Financial institution: *Proyectos de Excelencia, Junta de Andalucía (P10-RNM-6630)*

Participants: University of Granada and University of Jaén

Date: 2011-2014

Quantity: 117.233 €

PI: Dra. Inmaculada de Vicente Álvarez-Manzaneda

3.- Title: *Rutas de distribución de nutrientes en embalses estratificados del mediterráneo: bases científicas para la gestión de la calidad del agua*

Financial institution: *Ministerio de Ciencia y Tecnología. Proyecto CGL2008-06101/BOS*

Participants: University of Granada; University of Jaén and University of Málaga

Date: 2009-2011

Quantity: 170.700€

PI: Dr. Francisco Rueda Valdivia

C.4. Contracts, technological or transfer merits

- Secretary of the Department of Ecology of the University of Granada: May 2013-May 2022
- Representative of the Department of Ecology in the Environmental Sciences Teaching Commission: 2011-present
- Experience as a referee in more than 10 international magazines and national books



Parte A. DATOS PERSONALES

Fecha del CVA	4/11/2022
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Nombre y apellidos	Manuel Jesús López Rodríguez		
DNI/NIE/pasaporte	*****	Edad	**
Núm. identificación del/de la investigador/a	WoS Researcher ID (*)	A-9296-2011	
	SCOPUS Author ID(*)		
	Open Researcher and Contributor ID (ORCID) **	0000-0001-6707-0992	

(*) Al menos uno de los dos es obligatorio

(**) Obligatorio

A.1. Situación profesional actual

Organismo	Universidad de Granada		
Dpto./Centro	Departamento de Ecología (Facultad de Ciencias) e Instituto del Agua de la Universidad de Granada		
Dirección	Campus de Fuentenueva s/n		
Teléfono	958249767	correo electrónico	manujlr@ugr.es
Categoría profesional	Profesor Titular de Universidad	Fecha inicio	14/02/2018
Palabras clave	Medios lóticos, macroinvertebrados, ecología de poblaciones y comunidades, redes tróficas		

A.2. Formación académica (título, institución, fecha)

Licenciatura/Grado/Doctorado	Universidad	Año
Licenciado en Ciencias Ambientales	Universidad de Granada	2002
Doctor por la Universidad de Granada	Universidad de Granada	2008

A.3. Indicadores generales de calidad de la producción científica (véanse instrucciones)

- 2 sexenios de investigación (el último concedido en 2019).
- Número de tesis doctorales dirigidas en los últimos 10 años: 0 (1 actualmente en desarrollo).
- Citas totales= 824 (webofscience.com)
- Promedio citas/año (últimos 5 años, sin incluir 2022)= 86,2 (webofscience.com)
- Publicaciones totales en el primer cuartil= 15
- Índice H=14 (webofscience.com).

Parte B. RESUMEN LIBRE DEL CURRÍCULUM (máximo 3500 caracteres, incluyendo espacios en blanco)

Manuel Jesús López Rodríguez pertenece al grupo de investigación Biología y Ecología Animal de Medios Acuáticos Lóticos (RNM 102). Inició su investigación en aspectos de la ecología trófica y de las estrategias vitales de insectos acuáticos, especialmente plecópteros y efemerópteros, tanto en el sur de la Península Ibérica como en otras áreas europeas y, puntualmente, del hemisferio sur, aspectos que abordó en su tesis doctoral. Posteriormente ha ampliado su línea de investigación incluyendo aspectos ecológicos a nivel de comunidad o ecosistema, como redes tróficas o experimentos de descomposición de materia orgánica en ríos. Como resultado de su tarea investigadora desde el año 2003, es autor de 73 artículos incluidos en revistas SCI y 29 no incluidos, tres libros sobre ecología de insectos acuáticos a escala europea y numerosas fichas rojas de especies y capítulos de libro. Ha colaborado en el proyecto europeo "Integrated Project to Evaluate the Impacts of Global Change on European Freshwater Ecosystems", en cuyo marco desarrolló su tesis doctoral, lo que le permitió colaborar activamente con investigadores de diferentes universidades e institutos de investigación en la elaboración de bases de datos autoecológicos para tres grupos de macroinvertebrados acuáticos (tricópteros, plecópteros y efemerópteros). También ha participado en un proyecto nacional, en el que pudo profundizar en estudios sobre ciclos vitales, alimentación, producción secundaria y estado oxidativo en diversas especies de plecópteros, y en 2015 fue investigador principal de dos proyectos relacionados con la ecología fluvial. Asimismo, ha trabajado en aspectos de diversidad y conservación participando en la elaboración de las fichas de especies de plecópteros para el Libro Rojo de



Invertebrados Amenazados de Andalucía (2008) y para el Atlas y Libro Rojo de los Invertebrados Amenazados de España (Especies Vulnerables) (2011). Sobre esta temática participó en un amplio estudio publicado en *Biodiversity and Conservation* evaluando la vulnerabilidad de los plecópteros ante los efectos del cambio climático a escala europea. Su tarea investigadora ha sido asimismo acompañada de una tarea divulgadora, puesta de manifiesto en varios artículos publicados en las revistas *Quercus* y *AEMS Ríos con vida*. Sus estancias predoctorales y postdoctoral le han permitido desarrollar activas colaboraciones con otros investigadores europeos que trabajan en temáticas similares. Son especialmente fructíferas las existentes con los doctores S. Fenoglio y T. Bo (Italia), pero merecen ser destacadas también las mantenidas con los doctores T. Derka (Eslovaquia) y con el doctor R. Fochetti (Italia). Esta última le ha permitido incorporar herramientas moleculares en sus estudios. En los últimos años ha colaborado en varios capítulos de libro, dos de ellos para la editorial Springer y otro para la editorial Elsevier.

Parte C. MÉRITOS MÁS RELEVANTES (ordenados por tipología)

C.1. Publicaciones

- Villar-Argaiz, M., López-Rodríguez, M.J. & Tierno de Figueroa, J.M. 2021. Divergent nucleic acid allocation in juvenile insects of different metamorphosis modes. *Scientific Reports*, 11: 10313. <https://doi.org/10.1038/s41598-021-89736-w>
- López-Rodríguez, M.J., Paz Moreno, I., Peralta-Maraver, I., Pérez-Martínez, C. & Tierno de Figueroa, J.M. 2021. Experimental evaluation of biodiversity response to dispersal barriers and patch primary producer biomass in Mediterranean streams. *Aquatic Sciences*, 83: 1. <https://doi.org/10.1007/s00027-020-00757-5>
- Villar Argaiz, M., López-Rodríguez, M.J. & Tierno de Figueroa, J.M. 2020. Body P content increases over ontogeny in hemimetabolous macroinvertebrates in a Mediterranean high mountain stream. *Aquatic Ecology*, 54(4): 1185-1200.
- Peralta-Maraver, I., López-Rodríguez, M.J., Robertson, A., & Tierno de Figueroa, J.M. 2020. Anthropogenic flow intermittency shapes food-web topology and community delineation in Mediterranean rivers. *International Review of Hydrobiology*, 105(3-4): 74-84.
- López-Rodríguez, M.J., Márquez Muñoz, C., Ripoll-Martín, E. & Tierno de Figueroa, J.M. 2019. Effect of shifts in habitats and flow regime associated to water diversion for agriculture on the macroinvertebrate community of a small watershed. *Aquatic Ecology*, 53(3): 483-495.
- Tierno de Figueroa, J.M. & López-Rodríguez, M.J. 2019. Trophic ecology of Plecoptera (Insecta): a review. *The European Zoological Journal*, 86(1): 79-102.
- Tierno de Figueroa, J.M., López-Rodríguez, M.J. & Villar Argaiz, M. 2019. Spatial and seasonal variability in the trophic role of aquatic insects: an assessment of functional feeding group applicability. *Freshwater Biology*, 64: 954–966.
- López-Rodríguez, M.J., Martínez-Megías, C., Salgado-Charrao, A.C., Cámara-Castro, J.P. & Tierno de Figueroa, J.M. 2018. The effect of large predators on the decomposition rate and the macroinvertebrate colonization pattern of leaves in a Mediterranean stream. *International Review of Hydrobiology*, 103: 90–98.
- Sanz, A., López-Rodríguez, M.J., García-Mesa, S., Trenzado, C.E., Ferrer, R.M. & Tierno de Figueroa, J.M. 2017. Are antioxidant capacity and oxidative damage related to biological and autoecological characteristics in aquatic insects? *Journal of Limnology* 76(1): 170-181.
- Peralta-Maraver, I., López-Rodríguez, M.J. & Tierno de Figueroa, J.M. 2017. Structure, dynamics and stability of a Mediterranean river food web. *Marine and freshwater research*, 68: 484-495.



C.2. Proyectos

1. A-BIO-538-UGR20. Análisis de la vulnerabilidad demográfica y genética al cambio climático de especies centinela. Proyecto de I+D+i en el marco del Programa Operativo FEDER de Andalucía 2014-2020. Investigador principal: Manuel Jesús López Rodríguez (Universidad de Granada). 2021-2023. 45000 €.
2. LifeWatch-2019-10-UGR-01_WP-2. Centro temático de ecosistemas de montaña y teledetección, deep learning-artificial intelligence, servicios electrónicos de la Universidad de Granada-Sierra Nevada. Investigador principal (del paquete de trabajo 2): Manuel Villar Argáiz. 2019-2023. 588003 €.
3. Proyecto precompetitivo de la Universidad de Granada. Estudio de redes tróficas líticas mediterráneas. Investigador principal: Manuel Jesús López Rodríguez. 2015. 2920,00 €.
4. CEI2015-MP-ST2. Identificación de umbrales ecológicos y bacterias desnitrificantes de ambientes extremos. CEI-Biotic. Investigador principal: Manuel Jesús López Rodríguez (Universidad de Granada). 2015. 4500,00 €.
5. D/023976/09 y D/023976/10. Fortalecimiento del centro de biodiversidad y recursos naturales (Biorena) en Sucre (Bolivia) (Agencia Española de Cooperación Internacional para el Desarrollo, AECID). Investigador principal: Francisco Serrano Bernardo (Universidad de Granada). 2010-2012. 129205,00 €. Participación como investigador.
6. CGL2008-02221. Estudio de la biología preimaginal de las familias europeas de Plecópteros (Insecta): una aproximación integradora (Ministerio de Ciencia e Innovación). Investigador principal: José Manuel Tierno de Figueroa (Universidad de Granada). 2009-2011. 61710,00€. Participación como investigador.
7. NET965121. Consultoría y asistencia para la realización de la segunda fase del Atlas de los Invertebrados de España (Ministerio de Medio Ambiente y Medio Rural y Marino). Investigadores principales: José Ramón Verdú Faraco y Eduardo Galante Patiño (Universidad de Alicante). 2009-2010. 1500,00 € (subproyecto Universidad de Granada). Participación como investigador.
8. GOCE-CT-2003-5055402004-2009. Integrated Project to Evaluate the Impacts of Global Change on European Freshwater Ecosystems (Eurolimpacs) (Unión Europea, Sexto Programa Marco). Investigador principal: Martin Kernan (University College of London). 2004-2009. 20274,47€ (grupo de la Universidad de Granada). Participación como becario de investigación.

C.3. Contratos, méritos tecnológicos o de transferencia

1. Contrato nº 3152 suscrito entre el Leibniz-Institut für Gewässerökologie und Binnenfischerei (IGB) y la Oficina de Transferencia de Resultados de Investigación (OTRI) de la Universidad de Granada. Macroinvertebrates in Mediterranean climate watercourses. Investigadora responsable en la Universidad de Granada: Carmen Zamora Muñoz. 15/09/2012-15/02/2013. 25000,00 €. Participación como investigador.

C.4. Otros méritos

El arriba firmante:

- Formó parte del Comité Organizador de las “XXVI Jornadas de la Asociación Española de Entomología”, organizado por el Departamento de Biología Animal de la Universidad de Granada, celebradas del 12 al 15 de Septiembre de 2009 en el Parque de las Ciencias de Granada, España.
- Desde 2011 es miembro del Instituto de Agua de la Universidad de Granada.



- Recibió el premio a la mejor conferencia otorgado en el Congreso Internacional de Efemerópteros y Plecópteros por “Life in the dark: on the biology of the cavernicolous stonefly *Protonemura gevi* (Insecta, Plecoptera)”. Wakayama (Japón), 2012.
- Recibió el premio Espeleo 2013 por “El estudio de los plecópteros cavernícolas de Jaén” otorgado por el Grupo de Espeleología de Villacarrillo. Villacarrillo, Jaén, 2013.
- Ha actuado como asesor/revisor de proyectos de investigación y posdoctorales de la *Czech Science Foundation* (República Checa) y de la *Slovak Academy of Sciences* (República de Eslovaquia) durante varios años desde 2010.
- Ha actuado como revisor de las siguientes revistas científicas: *Acta Granatense* (2004), *Zoologica baetica* (2009, 2010), *Aquatic Insects* (2009, 2010, 2014, 2019), *Italian Journal of Zoology* (2009), *Fundamental and Applied Limnology* (*Archiv für Hydrobiologie*) (2009), *Limnologica* (2010, 2019), *Aquatic Ecology* (2010), *Hydrobiologia* (2011, 2012, 2015, 2017, 2020), *Limnetica* (2012), *Boletín de la Asociación española de Entomología* (2012, 2013, 2017, 2019), *Ecohydrology* (2012), *International Review of Hydrobiology* (2012), *Annales Zoologici Fennici* (2012), *Journal of Limnology* (2013, 2014), *Zoology* (2013), *Entomologica Fennica* (2014), *Freshwater Science* (2015), *Biología Tropical* (2016), *Knowledge and Management of Aquatic Ecosystems* (2016), *Ecology and Evolution* (2016), *Zookeys* (2020).

Firma (1): JOSÉ ANTONIO HODAR CORREA
En calidad de: Solicitante



Part A. PERSONAL INFORMATION

CV date 5/10/2022

First and Family name	Penélope Serrano Ortiz	
Researcher codes	Open Researcher and Contributor ID (ORCID**)	0000-0001-7888-1889
Researcher codes	SCOPUS Author ID (*)	15766404500
	WoS Researcher ID (*)	L-2177-2014

(*) *Optional*

(**) *Mandatory*

A.1. Current position

Name of University/Institution	University of Granada / Andalusian Institute for Earth System Research (IISTA-CEAMA)		
Department	Ecology		
Address and Country	Av. Fuentenueva s/n, 18071, Granada, Spain		
Phone number	+34 958249861	E-mail	penelope@ugr.es
Current position	Tenured Professor	From	09/03/2019
Key words	Micrometeorology, Greenhouse gases, carbon cycle, photosynthesis, respiration, subterranean ventilation, agro-systems		

A.2. Education

PhD, Licensed, Graduate	University	Year
Ph.D. in Environmental Sciences	University of Granada	2008
M.Sc in Geophysics and Meteorology	University of Granada	2010
Degree in Environmental Sciences	University of Granada	2002

A.3. General indicators of quality of scientific production (see instructions)

Number of recognized, ministerial six-year research periods ("sexenios"): 3 (2004-2009, 2010-2015, 2016-2021). Grant date: 03/05/2022

Number of recognized, regional four-year research periods ("tramos autonómicos"): 4. Grant date: 24/10/2019

Scopus: h-factor=25, citations=1817, i10-index=46, citations/year=167.7 (in 2016-2020)

Number of PhD. thesis oriented: 2 defended, 3 ongoing

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

Dr. Penélope Serrano Ortiz is a leading scientist with an outstanding trajectory. In 2004 the Andalusian Regional Government (ARG) awarded her a selective doctoral grant, unattached to any project, to develop her thesis in the U. Granada Applied Physics department (2008). Published results enabled her to obtain a competitive Spanish Ministry Mobility Postdoctoral fellowship to work at the U. Antwerp (Belgium; 2009-2010) and then a "Juan de la Cierva" fellowship at the CSIC-EEZA in Almería (Spain) (2010-2013). Finally, at the end of 2013 she was awarded a highly competitive contract from the UGR (Plan Propio de la UGR, "Incorporación de jóvenes doctores a nuevas líneas de investigación" (2013-2019). The main research line of the candidate is strongly connected to European efforts to reduce of greenhouse gas (GHG) emissions and to increase carbon sequestration. Her research line is focused on measurements GHG from different ecosystems and their determinants by using the eddy covariance technique. This technique has been selected by the first European Research Infrastructure Consortium (ERIC) termed the "Integrated Carbon Observation



System" (ICOS) to measure GHG fluxes at the ecosystem level. Concretely, the research activity of the candidate can be split into the following research lines:

1. Integrating GHG balance in terrestrial (natural and managed) ecosystems
 2. The contribution of abiotic CO₂ fluxes into the net ecosystem carbon exchange between terrestrial surface and the atmosphere
 3. Improving the methodology for quantifying CO₂ fluxes using the eddy covariance technique
- Regarding her CV, the following merits stand out:

1. Coordinator and/or Principal Investigator for several projects "GEISpain" (2015-2018), "ELEMENTAL" (2018-2021), INTEGRATYON3 (Programa Estatal de I+D+i, Retos de la Sociedad); "IBERALP" (2021-2024) (Parques Nacionales); "OLEAGEIs" (2021-2023) (Proyectos I+D+i del Programa Operativo FEDER 2020)
2. Principal Investigator for the University of Granada (UGR) in the European FP7 InGOS project (2011-2015). Budget for the UGR: 31.847€
3. Publications: 58 peer-reviewed publication, 51 of them in SCI journals, 36 in journals ranked in the top quarter of their discipline (JCR).
4. National representative of Spain in the European COST Action ES0804 (2008-2013)
5. Session chair at 5 international conferences
6. Responsible Scientist of two "flux stations" of the global FLUXNET tower network (one of them (an olive orchard) proposed by the Spanish ministry for ICOS ERIC (the first European Research Infrastructure Consortium created)
10. Participation in 23 competitive projects (4 regional, 10 national and 9 international)
11. Attendance at 20 conferences and 4 invited workshops (14 international) with 78 contributions (2 invited oral)
12. Referee for the Spanish and Argentine research proposals (ANEP and ANPCyT agencies respectively)
13. Referee for the following SCI journals: *Global Change Biol*, *Agric Forest Meteorol*, *J. Geophys Res*, *Biogeosciences*, *Forest Ecol Management*, *J Arid Environ*, *Pedosphere*, *Photosynthetica*, etc.
14. Teaching activities: Great experience supervising Final career projects and Masters (8 and 7 respectively since 2010). Regular classes to undergraduate students (Biology and Environmental Science Degrees) and to Master's programs. Official professor of the Study Abroad Program of Arcadia University (Philadelphia, USA; courses taught in English) in Granada (45 hours/semester; 3 in total; from 2011 to 2013) and supervisor of Arcadia University students in research (240 hours; from 2012 to 2014).

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (see instructions)

1. **Serrano-Ortiz, P.**; S. Aranda-Barranco; A. López-Ballesteros; C. Lopez-Canfin; E. P. Sánchez-Cañete; A. Meijide; and A. S. Kowalski, A.S. (**position: 1/7**). Transition period between vegetation growth and senescence controls interannual variability of C fluxes in a Mediterranean reed wetland. *JGR Biogeosciences*. 10.1029/2019JG005169. 2019. **Q1**
2. Xiao, J.; Li., X; He, B.; Arain, M.A.;A. V.; Varlagin (**12/15 alphabetical order**), Solar-induced chlorophyll fluorescence exhibits a universal relationship with gross primary productivity across a wide variety of biomes. *Global Change Biology*. 25 - 4, pp. e4 - e6. 2019. **Q1**
3. Chamizo, S; **Serrano-Ortiz, P.**; López-Ballesteros, Ana; Sanchez-Cañete, E. P; Vicente-Vicente, J. L.; Kowalski, A. S. (**position: 2/6**). Net ecosystem CO₂ exchange in an irrigated olive orchard of SE Spain: influence of weed cover. *Agriculture, Ecosystems & Environment*. 239, pp. 51 - 64. 2017. **Q1**



4. **Serrano-Ortiz, P.**; Sánchez-Cañete, E. P.; Olmo, F. J.; Metzger, S.; Pérez-Priego, O.; Carrara, A.; Alados-Arboledas, L.; Kowalski, A.S. (**position: 1/8**). Surface-Parallel Sensor Orientation for Assessing Energy Balance Components on Mountain Slopes. *Boundary-Layer Meteorology*. 158 - 3, pp. 489 - 499. 2016. **Q1**

5. **Serrano-Ortiz, P.**, Were, A.; Reverter, B. P.; Villagarcía, L.; Domingo, F.; Dolman, A. J.; Kowalski, A. S. (**position: 1/7**). Seasonality of net carbon exchanges of Mediterranean ecosystems across an altitudinal gradient. *Journal of Arid Environments*. 115, pp. 1 - 9. 2015. **Q2**

6. **Serrano-Ortiz, P.**, Oyonarte, C., Pérez-Priego, O., Domingo, F. (**position 1/9**), Ecological functioning in grass–shrub Mediterranean ecosystems measured by eddy covariance. *Oecologia* 175, 1005–1017. 2014. **Q2**

7. Stoy, P., M. Mauder, T. Foken, B.,.....Varlagin, A. (**position 25/29 alphabetical order**). A data-driven analysis of energy balance closure across FLUXNET research sites: The role of landscape-scale heterogeneity. *Agricultural and Forest Meteorology* 171-172, 137-152. 2013. **Q1**

8. **Serrano-Ortiz, P.**, Marañón-Jiménez, S., Reverter, B.R., Sánchez-Cañete, E.P., Castro, J., Zamora, R., Kowalski, A.S. (**position: 1/7**). Post-fire salvage logging reduces carbon sequestration in Mediterranean coniferous forest. *Forest Ecology and Management* 262, 2287-2296.2011. **Q1**

9. **Serrano-Ortiz, P.**, Roland, M., Sánchez-Moral, S., Janssens, I.A., Domingo, F., Goddérís, Y., Kowalski, A.S. Hidden, abiotic CO₂ flows and gaseous reservoirs in the terrestrial carbon cycle: Review and perspectives. *Agricultural and Forest Meteorology* 150, 321-329.2010. **Q1**

10. **Serrano-Ortiz, P.**, F. Domingo, A. Cazorla, A. Were, S. Cuezva, L. Villagarcía, L. Alados-Arboledas, and A. S. Kowalski. (**position: 1/8**). 2009. Interannual CO₂ exchange of a sparse Mediterranean shrubland on a carbonaceous substrate. *Journal of geophysical research* 114 G04015, doi:04010.01029/02009JG000983. **Q1**

C.2. Research projects

1. Title: Vulnerability of biodiversity and climate services in Iberian alpine communities of mountain National Parks. (IBERALP). PN2021-2820s. Financial entity: European Commission. Length: 2021-2024. PI: Penélope Serrano Ortiz. Amount: 76.008 €. Participation type: Principal investigator

2. Title: Seguimiento integrado del intercambio de gases de efecto invernadero y aerosoles entre atmósfera y ecosistema en tierras secas: técnicas de teledetección y eddy covariance (INTEGRATYON3). PID2020-117825GB-C21. Financial entity: Ministerio de Economía y Competitividad fundamental. Legth: 09/2021-08/2025. PI: Penélope Serrano Ortiz and Juan Luis Guerrero Rascado. Amount: 121.000 €. Type of Participation: Coordinator and Principal Investigator

3. Title: LifeWatch-ERIC European Research Infrastructure Consortium by the. Implementing Decision (EU) 2017/499. Financial entity: European Commission. Length: 2021-2024. PI: Regino Zamora (dpt. Ecology. University of Granada. Spain). Amount: 6.052.480 €. Participation type: Principal investigator of the WP3 (Amount:

4. Title: Estudio de los balances de carbono y agua en ecosistemas gestionados para su adaptación al cambio climático (ELEMENTAL). CGL2017-83538-C3-1-R. Financial entity: Ministerio de Economía y Competitividad fundamental. Legth: 01/2018-12/2020. PI: Penélope Serrano Ortiz and Juan Luis Guerrero Rascado. Amount: 121.000 €. Type of Participation: Coordinator and Principal Investigator



5. Title: Hacia el balance integrado de gases de efecto invernadero en ecosistemas nacionales de alto impacto social y económico (GEISpain). CGL2014-52838-C2-1-R
Financial Entity: Ministerio de Economía y Competitividad fundamental. Length: 01/2015-12/2018. PI: Penélope Serrano Ortiz y Andrew S. Kowalski. Amount: 163.350 €. Type of Participation: Coordinator and Principal Investigator.

6. Title: Improving future ecosystem benefits through Earth Observations (ECOPOTENTIAL) EP-210159204. Financial entity: European Commission. Length: 10/2015-12/2018. PI: Antonello Provenzalle (National Research Council of Italy). Type of Participation: Researcher.

7. Title: European Long-Term Ecosystem and socioecological Research Infrastructure (eLTER) EP-210159204. Project number: 654359. Financial entity: European Commission. Length: 10/2015-12/2018. PI: Michael Mirtl (Umweltbundesamt GMBH, Austria). Type of Participation: Researcher.

8. Title: InGOS: Integrated non-CO2 Greenhouse gas Observing System (Project Code 284274). Financial Entity: European Commission (FP7). Amount: 7999999€ (con incentivos regionales). 31.847€ for the University of Granada. PI: Alex Vermeulen, ECN (Energieonderzoek Centrum Nederland). Length: 01/2010-6/2013. Type of Participation: Principal Investigator for the University of Granada

9. Title: Balance de carbono en el olivar: efecto de la presencia de la cubierta vegetal (RNM-7186). Financial Entity: Junta de Andalucía; Consejería de Economía, Innovación y Ciencia (Convocatoria 2011). Length: 01/2013-12/2016. PI: Andrew S. Kowalski, Universidad de Granada. Amount: 169184.94€. Type of participation: Investigator of the Research Team (and coordinator)

10. Title: Greenhouse gas management in European land use systems (GHG Europe; Call FP7-ENV-2009-1.1.3.1; Project Code 244122). Financial Entity: European Commission (FP7). Length: 01/2010-6/2013. PI: Annette Freibauer, Thünen Institute of Climate-Smart Agriculture. Amount: 100000€ (con incentivos regionales). Type of participation: Researcher.

C.3. Contracts, technological or transfer merits

1. Title: Design and implementation of an information system for the Large-Scale Biosphere-Atmosphere Programme in Amazonia. Entity: Instituto Nacional de Pesquisas da Amazônia (INPA). PI: Regino Zamora, Universidad de Granada. Length: 07/2013-06/2015. Amount: 261.625€. Type of Participation: Researcher

2. Title: Calibración, Aplicación y Validación del modelo VPRM” en Andalucía (Contrato 3248 a través de Fundación Empresa). Entity: Consejería de Medio Ambiente (Junta de Andalucía) PI: Penélope Serrano Ortiz. Length: 01/2009-12/2009. Amount: 20851€

3. Title: Red de observación sistemática de los flujos de carbono y energía en ecosistemas terrestres en España (II). Entity: Fundación Centro de Estudios Ambientales del Mediterráneo; Universidad de Granada. PI: Penélope Serrano, Universidad de Granada. Length: 12/2008-03/2009. Amount: 10000€

C.4. Patents

Not applicable



Part A. PERSONAL INFORMATION

CV date 09/11/2022

First and Family name	ENRIQUE MORENO OSTOS		
Social Security, Passport, ID number		Age	
Researcher codes	Open Researcher and Contributor ID (ORCID**)	0000-0001-9471-3922	
	SCOPUS Author ID (*)	6504241458	
	WoS Researcher ID (*)		

(*) *Optional*
(**) *Mandatory*

A.1. Current position

Name of University/Institution	UNIVERSITY OF MÁLAGA		
Department	Ecology and Geology		
Address and Country	Faculty of Sciences. Teatinos University Campus. 29071. Málaga. Spain		
Phone number	952136649	E-mail	quique@uma.es
Current position	Profesor Titular de Universidad	From	31/12/2016
Key words	Aquatic ecology, aquatic ecosystem metabolism, carbon biogeochemistry, ecosystem conservation, biological oceanography, ecosystem services, global change impacts.		

A.2. Education

PhD, Licensed, Graduate	University	Year
BsC in Environmental Sciences	University of Granada	2000
PhD in Ecology	University of Granada	2004

A.3. General indicators of quality of scientific production (see instructions)

- h-index (WOS): 16
- 44 articles published in JCR-SCI journals
- 1044 citations in WOS
- 3 positive evaluations of six-years research periods
- 1 positive evaluations of six-years knowledge transfer periods
- 3 positive evaluations of five-years teaching periods
- 1 book edited, published by CSIC
- 17 papers published in other international peer-review journals not included in JCR-SCI
- 18 peer-reviewed book chapters
- 50 contributions in international peer-review conferences
- 22 invited conferences in universities, research centers and water companies
- 3 PhD thesis currently under supervision

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

My research follows a coherent line around the structure and function of phytoplankton community and its connection with the physical and chemical processes occurring at different scales in aquatic ecosystems. During my predoctoral research stage (Dpt. Ecology at UGR, and Center for Ecology and Hydrology-Natural Environment Research Council, at UK) and postdoctoral (Dpt. Ecology at UB) my scientific activity focused on the field of Limnology. However, since I joined the Dpt. of Ecology at UMA (in 2007) I had the opportunity to extend my research to the field of Biological Oceanography. As a result of this consistent and progressive research line, my scientific contribution has followed an upward trajectory. To date I have authored 44 articles published in SCI scientific journals, as well as 17 other peer-review articles published in not-SCI journals but of recognized international prestige. I have also published 18 book chapters. In addition, I am the Editor of the book *Expedición de Circunnavegación Malaspina 2010. Cambio Global y Exploración de la Biodiversidad en el*

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Océano. Libro Blanco de Métodos y Técnicas de Trabajo Oceanográfico, published in 2012 by the Spanish Advanced Scientific Research Council CSIC. As a result of my scientific production, I have obtained two positive evaluations of six-years research periods. Throughout my scientific career I have participated in 14 research projects, 1 knowledge transfer project, 1 UGR-UMA research agreement and several contracts with public administrations and companies. I have been the Principal Investigator (PI) at the University of Málaga of the Consolider Ingenio project *Circumnavigation Expedition Malaspina 2010. Global Change and Global Ocean Biodiversity Exploration*, a project coordinated by Dr. Carlos Duarte. I have also been PI of the research project CGL2017-86788-C3-1P *Carbon dynamics in lakes and reservoirs under a changing hydrology: implications for ecosystem metabolism, gas fluxes, and sedimentary sinks (C-HydroChange)*, and at present I am PI of project PID2020-114024GB-C33 *Alteration of carbon sink and sources in shrinking inland waters (Alter-C)*, both funded by the Spanish Ministry of Science and Innovation. From the beginning of my activity as a researcher I have maintained active and dynamic attitude, which has led me to produce 50 congress communications, to give 22 invited conferences in various research and water management centers, to carry out 5 research stays in different research centers, and to participate in 4 oceanographic cruises in the Atlantic Ocean and the Mediterranean Sea (3 of them on board R/V Hespérides) and 1 International Scientific Expedition to the Aral Sea (Kazakhstan). I am a researcher committed to the promoting science system. Thus, I have been Co-Editor in Chief of the international scientific journal *Limnetica* (indexed in SCI) and I'm still Associate Editor, I have reviewed research projects, and I am a regular reviewer of scientific journals of recognized prestige. In addition, I have a strong commitment with knowledge transfer to the productive sector. As a result, I have been recognized with 1 six-years period on knowledge transfer, I have the PI of a scientific knowledge transfer funded by CEIMAR, and I have contributed to transfer knowledge to the public and private sectors, through various contracts and consulting activities. Finally, I am a researcher involved in the dissemination of science. I have belonged to the Executive Editorial Committee of the journal *Encounters in Biology* (published by the University of Málaga), I have organized 3 exhibitions that have brought marine research to society, and I have organized 6 workshops of initiation to autonomous diving from a scientific perspective.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (10 more relevants in the last 10 years)

1. Montes-Pérez, J.J., R. Marcé, B. Obrador, T. Conejo-Orosa, J.L. Díez, C. Escot, I. Reyes, E. Moreno-Ostos. 2022. Hydrology influences carbon flux through metabolic pathways in the hypolimnion of a Mediterranean reservoir. *Aquatic Sciences*. 10.1007/s00027-022-00867-2
2. Montes-Pérez, J.J., B. Obrador, T. Conejo-Orosa, V. Rodríguez, R. Marcé, C. Escot, I. Reyes, J. Rodríguez, E. Moreno-Ostos. 2022. Spatio-temporal variability of carbon dioxide and methane emissions from a Mediterranean Reservoir. *Limnetica*. 10.23818/limn.41.04
3. Pozzo-Pirotta, L.J., J.J. Montes-Pérez, S. Sammartino, R. Marcé, B. Obrador, C. Escot, I. Reyes, E. Moreno-Ostos. 2022. Carbon dioxide emission from drawdown areas of a Mediterranean reservoir. *Limnetica*. 10.23818/limn.41.05
4. Donis, D. et al. 2021. Stratification strength and light climate explain variation in chlorophyll a at the continental scale in a European multilake survey in a heatwave summer. *Limnology and Oceanography* 66: 4314-4333.
5. Montes-Pérez, J.J., T. Conejo-Orosa, J. Rodríguez, V. Rodríguez, E. Marañón, E. Moreno-Ostos. 2020. Spatial and temporal patterns of physical environment and phytoplankton at Paraje Natural of the Guadalhorce River mouth (Malaga). *Ecosistemas*. 10.7818/ECOS.2029
6. Sebastián, M., Salazar, G., Agustí, S.... Gasol, J. M. 2020. Major imprint of surface plankton on deep ocean prokaryotic structure and activity. *Molecular Ecology*. 10 authors. E. Moreno-Ostos in 4th position.



7. Montes-Pérez, J.J., Moreno-Ostos, E., Marañón, E., Blanco, J. M., Rodríguez, V. & Rodríguez, J. 2020. Intermediate-size cell dominance in the phytoplankton community of an eutrophic, estuarine ecosystem (Guadalhorce River, Southern Spain). *Hydrobiologia*. <https://doi.org/10.1007/s10750-020-04251-9>

8. Agustí, S., L.M. Lubián, E. Moreno-Ostos, M. Estrada, C. M. Duarte. 2019. Projected changes in photosynthetic picoplankton in a warmer subtropical ocean. *Frontiers in Marine Science* 15. <https://doi.org/10.3389/fmars.2018.00506>

9. Moreno-Ostos, E., J. M. Blanco, S. Agustí, L. M. Lubián, V. Rodríguez, R. L. Palomino, M. Llabrés, J. Rodríguez. 2015. Phytoplankton biovolume is independent from the slope of the size spectrum in the oligotrophic Atlantic Ocean. *Journal of Marine Systems* 152: 42-50

10. Moreno-Ostos, E. (Ed). 2012. Expedición de Circunnavegación Malaspina 2010. Cambio Global y Exploración de la Biodiversidad del Océano. Libro Blanco de Métodos y Técnicas de Trabajo Oceanográfico. CSIC. Madrid. 688 pp. ISBN 978-84-00-09419-5; NIPO 472-11214-6

C.2. Research projects (in the last 10 years)

1. Title: Alteration of carbon sink and sources in shrinking inland waters (Alter-C)

Reference: PID2020-114024GB-C33
 Funding: Ministerio de Ciencia e Innovación
 Duration: 2020-2023
 PI: Enrique Moreno-Ostos

2. Title: Una aproximación desde la economía azul a la invasión de *Rugulopteryx okamurae* en Andalucía. Integrando conocimiento, gestión, formación y soluciones empresariales innovadoras (ECO²-ALGAE)

Funding: CEIMAR
 Call: Plan Nacional de I+D+i.
 Duration: 2020-2021
 PI: Enrique Moreno-Ostos

3. Title: Carbon dynamics in lakes and reservoirs under a changing hydrology: Implications for ecosystem metabolism, gas fluxes, and sedimentary sinks (C-HydroChage)

Reference: CGL-86788-C3-1P
 Funding: Ministerio de Ciencia e Innovación
 Duration: 2017-2020
 PI: Enrique Moreno-Ostos

4. Title: Role of temperature and resources in the control of phytoplankton metabolism and community structure (TERRIFIC)

Reference: CTM2014-53582-R
 Funding: Ministerio de Economía y Competitividad.
 Duration: 2015-2018
 PI: Emilio Marañón
 Role: Researcher

5. Migrants and Active Carbon Flux in the Atlantic (MAFIA)

Reference: CTM2012-39587-C04
 Funding: Ministerio de Economía y Competitividad
 Duration: 2013-2016
 PI: Santiago Hernández León



Role: Researcher

6. Scaling, monitoring and predicting marine plankton metabolism in a changing ocean (SCALAR)

Funding: Ministerio de Ciencia e Innovación
 Duration: 2012-2014
 PI: Pablo Serret Ituarte
 Role: Researcher

7. Expedición de Circunnavegación Malaspina 2010: Cambio Global y Exploración de la Biodiversidad en el Océano Global (EXPEDICIÓN MALASPINA)

Reference: CSD2008-00077
 Funding: Ministerio de Ciencia e Innovación
 Call: Consolider Ingenio Program
 Duration: 2009-2014
 Coordinator: Carlos Duarte
 Role: PI at University of Málaga
 Quantity: 4.350,000 €

C.3. Contracts, technological or transfer merits

- Knowledge transfer contracts:

PI in *Dinámica del humedal restaurado del Lucio de Trebujena (Cádiz) como fuente-sumidero de carbono*. Contract with WWF/ADENA. 2022-2023.

PI in *Estudio sobre el papel de la marisma de Trebujena (Cádiz) como fuente/sumidero de carbono*. Contract with WWF/ADENA. 2021-2022.

PI in *Uso de nuevas tecnologías para el seguimiento de la invasión biológica de *Rugulopteryx okamurae* en el Puerto de Sotogrande y su entorno. Oportunidades para la formación avanzada y la sostenibilidad (ECO²-SOTOGRANDE)*. Contract with Puerto de Sotogrande. 2021-2022.

Researcher in *Control del estado ambiental de la Ría de Pontevedra y del Banco de Placeres*. Contract with Empresa Nacional de Celulosa España. Fábrica de Pontevedra. Four consecutive contracts (2015, 2016, 2017 and 2018)

Researcher in *Estudio de estratificación y eutrofización potencial del embalse de Lekubaso*. Contract with Consorcio de Aguas de Bilbao Bizkaia. 2007

C.4. Patents: None

C.5, C.6, C.7...

- Coordinator of the Campus of International Excellence of the Sea (CEIMAR) at University of Málaga
- Scientific Coordinator of the Marine Ecology and Limnology Research Group (RNM192). University of Málaga.
- Co-Editor in Chief of the JCR-SCI international scientific journal *Limnetica* (now Associate Editor)
- 3 PhD students currently under supervision

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Part A. PERSONAL INFORMATION

CV date

02/10/2022

First and Family name	María José Carmona Navarro		
Social Security, Passport, ID number		Age	
Researcher codes	Open Researcher and Contributor ID (ORCID**)	0000-0002-4835-6933	
	SCOPUS Author ID (*)	24480385300	
	WoS Researcher ID (*)	AAM-4340-2020	

(*) *Optional*

(**) *Mandatory*

A.1. Current position

Name of University/Institution	University of Valencia (UV)		
Department	Cavanilles Institute of Biodiversity and Evolutionary Biology(ICBIBE) /Department of Microbiology and Ecology		
Address and Country	C/ Catedrático José Beltrán Martínez, 2, 46980 Paterna (Valencia)		
Phone number	+34 963543665	E-mail	maria.j.carmona@uv.es
Current position	Senior Researcher Evolutionary Ecology Lab/Full Professor of Ecology	From	2017-11-16
Key words	Population ecology, evolutionary ecology, demography, sexual reproduction in cyclic parthenogens, rotifers, coexistence of cryptic species, evolution of life history traits, intraspecific variability, ecological differentiation, local adaptation, interpopulation hybridization, diapause		

A.2. Education

PhD, Licensed, Graduate	University	Year
PhD in Biology	University of Valencia	1992
Bachelor in Biology	University of Valencia	1985

A.3. General indicators of quality of scientific production (see instructions)

- *Sexennial periods of research activity that have received positive evaluation by the Spanish National Commission for Research Evaluation: 5 (i.e, the maximum possible according to the regulations); Last six-year period awarded: 2012-2017 (positively evaluated in 2018-06-06).*
- *PhD theses supervised (2010-01-01/2020-12-17): 4 theses defended (one with Outstanding Award from University of Valencia) plus 2 theses ongoing.*
- *JCR (Web of Science)articles:*
1989-01-01/2020-01-01: 53 articles; 26 Q1 (49%), 15 Q2 (28%), 10 Q3 (19%) and 2 Q4 (4%) according to JCR raking in the year of publication.
2010-01-01/2020-12-17: 24 articles; 12 Q1 (50%), 9 Q2 (38%), 1 Q3 (4%) y 2 Q4 (8%) according to JCR raking in the year of publication.
- *Citations: 1299 (Web of Science; 1989-01-01/2020-01-01); 1776 (Google Scholar). Average citations per article: 24.1 (Web of Science, 1989-01-01/2020-01-01). Average citations per year: 3.3 (Web of Science, 1989-01-01/2020-01-01)*
- *h index: 23 (Web of Science); 27 (Google Scholar); i10 index: 47*

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

I am senior research evolutionary ecologist at ICBiBE (UV). My research activity has been continuous since I joined UV in 1996 as a PhD grant holder of the Spanish Ministry of Science (1986-1989), were I received my PhD in 1992 co-advised by MR Miracle and M Serra. During 1993 I was a Postdoctoral fellow at Georgia Tech in Atlanta (USA) hosted by TW Snell. I have served as Assistant Professor (1990-1995), Associated Professor (1996-2017) and Full Professor of Ecology (2017-) at UV.

I have performed studies in evolutionary ecology of zooplankton with a special focus on rotifers including: identification and ecological characterization of cryptic species; mechanisms of niche differentiation and coexistence mediation; interpopulation genetic differentiation and intrapopulation genetic diversity; patterns of sexual reproduction (induction, allocation, evolution and optimization);



analysis and characterization of diapausing egg banks; and local adaptation. A common factor is my interest in the ecological and evolutionary consequences of sex in these facultative sexual organisms, and the combination of multiple theoretical and empirical approaches. I have contributed to: understanding the mechanisms controlling sexual reproduction in the life cycle; extending sex ratio evolution Fisher's theory to rotifers; evaluating the costs of sex investment; explaining the maintenance of sex in populations; understanding the relevance of sex investment in coexistence of cryptic species; and analyzing plasticity, genetic polymorphism, and risk spreading strategies in traits related to sexual reproduction and diapause. I am currently interested in identifying how these responses contribute to the ability of populations to adapt and evolve in unpredictable environments. My achievements are illustrated by 53 JCR articles (10 as first and 14 as last author), 49% published in journals ranked in the first quartile of evolutionary biology, ecology and limnology areas. My research has also generated other scientific and popular science publications and 82 conference contributions (65 international). These results are the product of 19 projects and grants funded in competitive public calls (see C2). I have been PI in 3 projects of the Spanish National Plan and one autonomic grant. It is worth noting my continued participation in projects since 1995 in a research group, pioneer in the evolutionary ecology of aquatic organisms in Spain, which has been consolidating and tackling increasingly ambitious projects, and where my leadership capacity has been evident over the last 15 years. I have co-advised 8 PhD theses, 7 in excellence programmes (2 with outstanding award, 4 with international mention) and currently I co-direct 2 theses (Doctoral Programme in Biodiversity and Evolutionary Biology with excellence mention). I have initiated in research collaborator students with scholarships (Spanish Ministry of Science and Education) and obtained institutional funds to train technicians. In terms of mobility, I have visited prestigious research centers invited or with funding obtained in public calls (see C4). I have been a reviewer in JCR journals and an evaluator of projects in national (ANEP) and foreign agencies (CONICYT, Chile; FWF, Austria; ANR, France). I have been part of ICBiBE Management Team (2007-2010) and have participated in the organization of scientific meetings and scientific dissemination conferences.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (10 selected articles from 2010-01-01 to 2020-12-17)

1. Tarazona, E, JI Lluçás-Lledó, **MJ Carmona** & EM García-Roger, 2020. Gene expression in diapausing rotifer eggs in response to divergent environmental predictability regimes. *Scientific Reports* 10: 21366.
2. Dimas-Flores, N, M Serra, EM García-Roger & **MJ Carmona**, 2019. Evidencing the cost of sexual reproduction in the rotifer *Brachionus plicatilis*. *Hydrobiologia* 844: 243-255.
3. Tarazona, E, C Hahn, L Franch-Gras, EM García-Roger, **MJ Carmona** & A Gómez 2019. Ecological genomics of adaptation to unpredictability in experimental rotifer populations. *Scientific Reports* 9-1: 19646.
4. Tarazona, E, EM García-Roger & **MJ Carmona**, 2017. Experimental evolution of bet hedging in rotifer diapause traits as a response to environmental unpredictability. *Oikos* 126: 1162-1172.
5. Franch-Gras, L, EM García-Roger, M Serra & **MJ Carmona**, 2017. Adaptation in response to environmental unpredictability. *Proceedings of the Royal Society of London B*. 284: 20170427.
6. Gabaldón, C & **MJ Carmona**, 2015. Allocation patterns in modes of reproduction in two facultatively sexual cryptic rotifer species. *Journal of Plankton Research* 37: 429-440.
7. Gabaldón, C, **MJ Carmona**, J Montero-Pau & M Serra, 2015. Long-Term competitive dynamics of two cryptic rotifer species: diapause and fluctuating conditions. *PLOS ONE* 10: e0124406.
8. EM García-Roger, M. Serra, & **MJ Carmona**, 2014. Bet-hedging in diapausing egg hatching of temporary rotifer populations -A review of models and new insights. *International Review of Hydrobiology* 99: 96-106.
9. Gabaldón, C, J Montero-Pau, M Serra & **MJ Carmona**, 2013. Morphological similarity and ecological overlap in two rotifer species. *PLOS ONE* 8: e-57087.
10. Campillo, S, EM García-Roger & **MJ Carmona**, M Serra, 2011. Local adaptation in rotifer populations. *Evolutionary Ecology* 25: 933-974.

C.2. Research projects



1. Adaptation to predictable and unpredictable environmental variation in rotifers: integrated strategies and time scales (PID2020-114153GB-I00). Ministry of Science and Innovation PIs: Eduardo M García Roger & **MJ Carmona**. Duration: 01/09/2021-31/08/2023. Funding: 136.367 €.
2. Spacial dispersal and sexual reproduction in rotifers (AICO/2020/013). Conselleria de Educació i Ciència. PI: M Serra. 2020-05-19/2022/05/18. Funding: 39.450 €. Participation: Team member.
3. Environmental unpredictability and counteracting effects on sex response in rotifers (CGL2015-65422-P). Spanish Ministry of Economy, Industry and Competitiveness PIs: **MJ Carmona** & M. Serra. Duration: 01/01/2016-31/12/2019. Funding: 113.740 €.
4. Adaptation to environmental unpredictability in rotifer populations (CGL2012-30779). Spanish Ministry of Economy and Competitiveness. PI: **MJ Carmona**. Duration: 01/01/2012-31/12/2015. Funding: 136.890 €.
5. Implications of the environmental and demographic fluctuations on the coexistence of cryptic rotifer species (CGL2009-07364). Spanish Ministry of Economy and Competitiveness. PI: M Serra. Duration: 01/01/2010-31/12/2012. Funding: 169.400 €. Participation: Team member.
6. Complementary grant to the project Ecology and the evolution of sex in rotifers (GVACOMP2009-030). Valencian Council for Education and Science. IP: **MJ Carmona**. Duration: 01/01/2009-31/12/2009. Funding: 10.000 €.
7. Ecology and the evolution of sex in rotifers (CGL2006-07267). Spanish Ministry of Education and Science. PI: **MJ Carmona**. Duration: 01/10/2006 -31/09/2009. Funding: 60.500 €.
8. A Biochemical, Genetic, and Genomic Investigation of the Evolution and Ecology of Sexual Reproduction (EF-04126749) National Science Foundation (USA); Spanish Group PI: M Serra. Duration: 01/01/2005-31/08/2009. Funding: 47.865 €. Participation: Team member.
9. Differentiation among-rotifer populations and outbreeding effects (BOS 2003-00755; IP: M Serra Galindo. Spanish Ministry of Science and Technology. Duration: 01/01/2004-31/12/2006. Funding: 138.250 €. Participation: Team member.

C.3. Scientific dissemination and technology transfer activities

Popular Science articles (from 2010-01-01 to 2020-12-17)

1. Serra, M, MJ Carmona, EM García-Roger & R Ortells, 2020. Surviving uncertainty. Biodiversity, adaptation, and environmental fluctuation in rotifers. *Mètode Annual Review*. 10: 183-191.
2. Carmona, MJ, 2011. Asexualidad: la vía más rápida para proliferar. *Investigación y Ciencia*. 414: 14-15. ISSN 0210-136X.

Technology transfer contracts

Study on the reliability, reproducibility, error and linearity of an automatic cell counter for microscopy. Research institution: Institute Cavanilles of Biodiversity and Evolutionary Biology (Universitat de Valencia). Researcher in charge: **MJ Carmona**. Enterprise: CELEROMICS TECHNOLOGIES, S.L. Starting date: 2011. Budget: 4,500 euros.

Organization and participation in scientific communication events

Open Day of the Science Park of the University of Valencia “Expociencia”. 2009 and 2010.

C.4. Research stays abroad

1. Institution: Department of Biological Sciences. University of Hull (Hull, United Kingdom). Year: 2011. Duration: 6 weeks; Position: Invited Professor.
2. Institution: Institute for Limnology. Austrian Academy of Sciences. (Mondsee, Austria). Year: 2009; Duration: one week; Position: Invited Professor.
3. Institution: Institute of Aquaculture. Hellenic Centre for Marine Research (Heraklion, Greece). Year: 2009. Duration: one week; Position: Invited Professor.
4. Institution: School of Biology. Georgia Institute of Technology (Atlanta, USA). Year: 1993, Duration: 7 months; Position: Postdoctoral researcher.



5. Institution: Dip. Biología 'Luigi Gorini'. Sez. Ecología. Univ. degli Studi di Milano (Milán, Italy).
Year: 1991, Duration: 2 months & Year 1989, Duration 3 months; Position: Doctoral student.

C.5. Mentoring

- 8 PhD theses co-advised (plus 2 ongoing): (1) E Aparici, 1999. *Estratègies reproductives i assignació sexual en rotífers* UV. (2) J Ciro, 2001. *Exclusión y coexistencia entre especies gemelas de rotíferos: mecanismos subyacentes* UV. (3) EM García-Roger, 2006. *Análisis demográfico de bancos de huevos de resistencia de rotíferos*. UV, Outstanding Award; (4) S Campillo, 2009. *The Dispersal-Gene Flow Paradox in zooplankton: the case of rotifers dwelling in temporary environments* UV European Mention (5) C Gabaldón, 2015. *Persistence, niche differentiation and ecological similarity in two cryptic rotifer species*, UV, International Mention; (6) AM Tortajada, 2016. *Diferenciación de poblaciones de rotíferos y efectos de la reproducción interpoblacional*. UV. (7) L Franch, 2017. *Rotifer adaptation to environmental unpredictability* UV; Internat. Mention & Outstanding Award. (8) E Tarazona, 2018. *Adaptation to environmental unpredictability in rotifers: an experimental evolution approach*, UV, International mention. (9) N. Colinas, ongoing. *Environmental unpredictability and counteracting effects on sex response in rotifers*. UV. (10) C. Arenas, ongoing. *Spatial dispersal, sexual reproduction and successful colonization in rotifers*. UV.
- 5 BSc theses advised: S Pérez-Polo, 2013; N Ibañez, 2015; M Saez-Fliquete, 2016; C Arenas, 2018; N Carabal, 2019.

C.6. Scientific, technical and/or assessment committees

- Member of University Professor Habilitation Committees: University of Salzburg, Austria (2012); Spanish Ministry of Education (2014-2015).
- Member of committees to judge open examination for CSIC Senior Scientist: 2006, 2016, 2019.
- Member of committees to judge open examination for Spanish University Professor (Associate and Full Professor): 1999, 2001, 2018, 2020.
- Member of 15 PhD committees: N Navarro, 1996; A Gómez, 1996; J Armengol, 1997; E Ortega, 2001; R Ortells, 2002; E Pérez, 2003; S Lapesa, 2004; O Smith, 2012; J. Montero, 2012; E Alvarez, 2013; C Olmo, 2015; S Rodriguez, 2017; M Macari, 2017; C Llopis, 2020; E Puche, 2020.

C.7. Experience in the organization of I+D events

1. 5th Scientific Meeting of the Cavanilles Institute of Biodiversity and Evolutionary Biology (ICBiBE): 20 years of ICBiBE: the crossroads between diversity and evolution, 2018. Type of activity: Coordinator of the Organizing Committee
2. 2nd Congress of the Spanish Society of Evolutionary Biology, 2009. Type of activity: Member of the Scientific Committee.
3. 3rd Partner-workshops 2 (ESF): Origin and spread of asexuals, 2004. International workshop of the European Science Foundation network called 'PARThenogenesis Network (PARTNER)'. Type of activity: Member of the Organizing Committee.

C.8. Reviewer activities

Research Project Evaluation for National and international Agencies

- Agencia Nacional de Evaluación y Prospectiva (ANEP), Ministerio de Economía, Industria y Competitividad. 2007, 2013, 2016.
- Agence Nationale de la Recherche (ANR) (France). Calls for proposals 2015 y 2016.
- Comisión Nacional de Investigación Científica y Tecnológica (CONICYT) de Chile presentados al Concurso Nacional de Proyectos FONDECYT Regular 2017.

Reviewer for Scientific Journals

Aquatic Ecology, Marine Biology, Aquaculture, Oecologia, Hydrobiologia, Limnetica, Journal of Italian Zoology, BMC Ecology, Trends in Ecology and Evolution.

C.9. Institutional responsibilities

- Academic Secretary (Statutory position) of the Cavanilles Institute of Biodiversity and Evolutionary Biology (ICBiBE) at the University of Valencia, from 2007 to 2010.
- Academic Secretary of the Doctoral Programme in Biodiversity and Evolutionary Biology with excellence mention at the University of Valencia, from 2018 to the date.

