

Part A. PERSONAL INFORMATION

CV date	26-05-2026
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First and Family name	José María Ortega Rodríguez		
Social Security, Passport, ID number		Age	
Researcher numbers	Researcher ID	O-7697-2014	
	Orcid code	0000-0002-7841-3687	

A.1. Current position

Name of University/Institution	University of Seville		
Department	Bioquímica Vegetal y Biología Molecular		
Address and Country			
Phone number		E-mail	
Current position	Full Professor	From	28-06-2012
Espec. cód. UNESCO	2302.25		
Palabras clave	Photosynthetic Electron Transfer. Structure and Function of Proteins. Cytochromes. Thermoluminescence		

A.2. Education

	University	Year
PhD in Biology	University of Seville	1988
Graduate in Biological Sciences	University of Seville	1984

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

Six research *sexenios* granted, all that requested. Eight complements for teaching merits (quinquenios). One doctoral thesis directed. 87 publications in specialized journals and books (58 in ISI journals); 1,469 TOTAL CITATIONS, with an average of citations/year during the last 5 years of 43.2. Index h = 23. Index i10 = 40. RG score: 33.40 (>92.5 en RG). From 1997, 60% of my indexed publications are in the Q1 range

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

My scientific activity has been developed mainly in the study of the structure-function relationship in photosynthetic proteins, the transfer of electrons in photosynthesis and the biochemical and metabolic response to oxidative stress. I have participated in 28 funded research projects, including EU-projects and private contracts, and I am, or I have been, Principal Investigator of Projects of the Plan Nacional and International Joint Projects.

My present lines of research are:

1. Systems with biotechnological interest, currently related to the use of alternative biofertilizers
2. Proteins involved in photosynthetic electron transfer and improvement of primary productivity in photosynthesis
3. Redox mechanisms of the stress response in photosynthetic organisms

My teaching activity has been developed for 32 years. Since 1996, I am a Professor at the University of Seville (Associate Professor, Professor Contracted Doctor, University Professor and Full Professor). I have taught in different subjects of different courses of the Degree of Biology and Biochemistry. I have also taught in Doctorate and Master Programs.

Part C. RELEVANT MERITS

C.1. Publications (from 2011)

1 José M. Ortega

Thermoluminescence can be used to study lipid peroxidation in photosynthetic organisms
Photosynthesis Research 163, 49 (2025)

2. Encarnación Díaz-Santos, Luis G. Heredia-Martínez, Luis López-Maury, Manuel Hervás, **José M. Ortega**, José A. Navarro, Mercedes Roncel. Combined effect of temperature and different light regimes on the photosynthetic activity and lipid accumulation in the diatom *Phaeodactylum tricornutum*
Plants 14, 329 (2025)

3. Carmen Castell, Encarnación Díaz-Santos, Luis G. Heredia-Martínez, Luis López-Maury, José M. Ortega, José A. Navarro, Mercedes Roncel, Manuel Hervás. Iron deficiency promotes the lack of photosynthetic cytochrome c550 and affects the binding of the luminal extrinsic subunits to photosystem ii in the diatom *Phaeodactylum tricornutum*
International Journal of Molecular Sciences 23, 12138 (2022) IF: 6, 208; Q1 (Biochemistry & Molecular Biology)

4. Mercedes Roncel, Anja Krieger-Liszkay, **José M. Ortega**. A tribute to Jean-Marc Ducruet for his contribution to thermoluminescence and photosynthesis research
Physiologia Plantarum 171, 179-182 (2021) IF: 4.148; Q1 (Plant Sciences)

5. **Ortega JM**, Roncel M. The afterglow photosynthetic thermoluminescence
Physiologia Plantarum 171, 268–276 (2021) IF: 4.148; Q1 (Plant Sciences)

6. Castell C, Bernal-Bayard P, **Ortega JM**, Roncel M, Hervás M, Navarro JA. The heterologous expression of a plastocyanin in the diatom *Phaeodactylum tricornutum* improves cell growth under iron-deficient conditions
Physiologia Plantarum 171, 277–290 (2021) IF: 4.148; Q1 (Plant Sciences)

7. Margarita García-Calderón, Marco Betti, Antonio J. Márquez, **José M. Ortega** and Mercedes Roncel. The afterglow thermoluminescence band as an indicator of changes in the photorespiratory metabolism of the model legume *Lotus japonicus*
Physiologia Plantarum 166, 240–250 (2019) IF: 4.148; Q1 (Plant Sciences)

8. P. Bernal-Bayard; L. Puerto-Galán; I. Yruela; I. García-Rubio; C. Castell; **J.M. Ortega**; P.J. Alonso; M. Roncel; J.I. Martínez; M. Hervás; J.A. Navarro. The photosynthetic cytochrome c550 from the diatom *Phaeodactylum tricornutum*.
Photosynthesis Research (2017) 133:273-287. IF: 3.864; Q1 (Plant Sciences)

9. Huang JY, Chiu YF, **Ortega JM**, Wang HT, Tseng TS, Ke SC, Roncel M, Chu HA. Mutations of Cytochrome b559 and PsbJ on and near the QC Site in Photosystem II Influence the Regulation of Short-Term Light Response and Photosynthetic Growth of the Cyanobacterium *Synechocystis* sp. PCC 6803.
Biochemistry (2016) 55:2214–2226. IF: 2.938; Q1 (Biochemistry and Molecular Biology)

10. Roncel M, González-Rodríguez AA, Naranjo B, Bernal-Bayard P, Lindahl AM, Hervás M, Navarro, JA, **Ortega JM**. Iron-deficiency induces a partial inhibition of the photosynthetic electron transport and a high sensitivity to light in the diatom *Phaeodactylum tricornutum*.
Frontiers in Plant Science (2016) 7 (1050):1-14. IF: 4.291; Q1/D1 (Plant Sciences)

11. Luján MA, Martínez JI, Alonso PJ, Torrado A, Roncel M, **Ortega JM**, Sancho J, Picorel R. In vivo reconstitution of α homodimeric cytochrome b559 like structure: The role of the N-terminus α -subunit from *Synechocystis* sp. PCC 6803.
Journal of Photochemistry and Photobiology B: Biology (2015) 152: 308–317. IF: 2.960; Q2 (Biophysics)
12. Repetto G, Zurita JL, Roncel M, **Ortega JM**. Thermoluminescence as a complementary technique for the toxicological evaluation of chemicals in photosynthetic organisms.
Aquatic Toxicology (2015) 158:88-97. IF: 3.557; Q1/D1 (Marine Freshwater Biology)
13. Guerrero F, Zurita JL, **Roncel M**, Kirilovsky D, Ortega JM. The role of the high potential form of the cytochrome b559: Study of *Thermosynechococcus elongatus* mutants.
Biochimica et Biophysica Acta, Bioenergetics (2014) 1837:908-19. IF: 5.353; Q1 (Biophysics)
14. Yi-Fang Chiu, Yung-Han Chen, Mercedes Roncel, Preston L. Dilbeckf, Jine-Yung Huang, Shyue-Chu Ked, **José M. Ortega**, Robert L. Burnap, and Hsiu-An Chu. Spectroscopic and functional characterizations of cyanobacterium *Synechocystis* PCC 6803 mutants on the cytoplasmic-side of cytochrome b559 in photosystem II
Biochimica et Biophysica Acta (Bioenergetics) (2013) 1827, 507–519. IF: 4.829; Q1 (Biophysics)
15. Guerrero, F., Sedoud, A.I., Kirilovsky, D., Rutherford, A.W., Roncel, M., **Ortega, J.M.**
A new value for the redox potential of cytochrome c550 in Photosystem II from *Thermosynechococcus elongatus*. In: **Photosynthesis Research for Food, Fuel and the Future**. 15th International Conference on Photosynthesis. Series: Advanced Topics in Science and Technology in China, Kuang, Tingyun; Lu, Congming; Zhang, Lixin (Eds.), pp 71-74, Zhejiang University Press, Hangzhou and Springer-Verlag Berlin Heidelberg, 2013. ISBN 978-3-642-32033-0. DOI: 10.1007/978-3-642-32034-7/page/3
16. Roncel, M., Kirilovsky, D., Guerrero, F., Serrano, A., **Ortega, J.M.** Photosynthetic cytochrome c550
Biochimica et Biophysica Acta (Bioenergetics) 1817, 1152-1163 (2012). IF: 4.843; Q1 (Biophysics)
17. Luján, M.A., Martínez, J.I., Alonso, P.J., Guerrero, F., Roncel, M., **Ortega, J.M.**, Yruela, Y., Picorel, R. Reconstitution, spectroscopy and redox properties of the photosynthetic recombinant cytochrome *B₅₅₉* from higher plants.
Photosynthesis Research 112, 193-204 (2012). IF: 3.24; Q1 (Biophysics)
18. Guerrero, F., Sedoud, A.I., Kirilovsky, D., Rutherford, A.W., **Ortega J.M.**, Roncel, M. A high redox potential form of cytochrome c550 in Photosystem II from *Thermosynechococcus elongatus*
Journal of Biological Chemistry 286, 5985-5994 (2011). IF: 4.773; Q1 (Biochemistry & Molecular Biology)
19. Medvedev, E.S., Kotelnikov, A.I., Goryachev, N.S., **Ortega, J.M.**, Stuchebrukhov, A.A. Kinetics of reduction of bacteriochlorophyll dimer in reaction centers of photosynthetic bacteria
Russian Journal of Physical Chemistry B, Focus on Physics 5, 308-319 (2011). IF: 0,26
20. Ducruet, J-M., Serrano, A., Roncel, M., **Ortega, J.M.** Peculiar properties of chlorophyll thermoluminescence emission of autotrophically or mixotrophically grown *Chlamydomonas reinhardtii*
Journal of Photochemistry and Photobiology B: Biology 104, 301-307 (2011). IF: 2,814; Q2 (Biophysics)

C.2. Research projects and grants (from 2016)

Rutas alternativas de transferencia de electrones en fotosíntesis y mejora de la productividad primaria bajo condiciones limitantes

MEC BIO2015-64169. 2016-2018 (166012 €)

Diseño de nuevos biofertilizantes para cultivos del bajo Guadalquivir (Contrato Arts. 68 y 83, L.O.U.). Agroquivir S.C.A. 2019–2021 (97566 €)

Generación de nuevas estirpes de microalgas con aplicaciones en biotecnología y acuicultura.

Proyectos de I+D+I del Programa Operativo Feder Andalucía 2014-2020, convocatoria 2020. US-1380339. 2020-2022 (80000 €)

Mecanismos de homeostasis de metales en cianobacterias

PID2020-112645GB-I00. Plan Nacional I+D, convocatoria 2020. 2021-2023 (145000 €)

Ingeniería genómica en cianobacterias para su adaptación al uso de gases de combustión.

TED2021-129165B-100. Proyectos Orientados a la Transición Ecológica y a la Transición Digital, Plan Estatal ICTI 2021-2023. Ministerio de Ciencia e Innovación. Convocatoria 2021. 2022-2024 (218.500 €)

Mejora de la productividad de microalgas en respuesta al cambio climático para su uso en acuicultura.

PCM_00004. Consejería de Universidad Investigación e Innovación de la Junta de Andalucía, convocatoria de “Proyectos de I+D+i en el marco del Plan Complementario de Ciencias Marinas–PRTR” de 2023. 2024-2025 (184.247 €)

Homeostasis de cobre en cianobacterias

Entidad financiadora: PID2023-146157NB-I00. Plan Nacional I+D, convocatoria 2023. Plan Estatal 2021-2023 - Proyectos Investigación No Orientada. Ministerio de Ciencia, Innovación y Universidades. 2024-2027 (162500 €)

C.3. Doctoral Thesis directed

Citocromos asociados al Fotosistema II en la cianobacteria termófila *Thermosynechococcus elongatus*. Estudio de mutantes puntuales del citocromo b559 y análisis redox del citocromo c550

Fernando Guerrero Rodríguez
23/09/2011

C.4. Teaching Experience (from 2013)

Principios Químicos de la Biología

Biology Degree. University of Seville (Studies Plan 2009)

Theoretical and Practical Classes of Principios Químicos de la Biología

Courses: 2013-14; 2014-15; 2015-16; 2016-17; 2017-18; 2018-19; 2019-20; 2020-21; 2021-22, 2022-23, 2023-24, 2024-25, 2025-26

Course Coordinator

Courses: 2013-14; 2014-15; 2015-16; 2016-17; 2017-18; 2018-19; 2019-20; 2020-21; 2021-22, 2022-23, 2023-24, 2024-25, 2025-26

C.5. Institutional Positions

- Secretary of the Department of Plant Biochemistry and Molecular Biology (2005-2012)
- Director of the Department of Plant Biochemistry and Molecular Biology (2013-2021)