

## CURRICULUM VITAE

### DATOS PERSONALES

Name	JOSÉ LUIS MORENO ORTEGO		
Id. card (DNI) number	34794575Z	Age	52
Researcher ID numbers	Researcher ID	G-3826-2011	
	Código Orcid	0000-0002-6063-7156	

### A.1. Current professional status

Organization	Consejo Superior de Investigaciones Científicas		
Institute	Centro de Edafología y Biología Aplicada del Segura		
Address	Campus Universitario de Espinardo, Edificio 25, 30100-Espinardo, Murcia, Spain		
Telephone number	968396200	e-mail address	<a href="mailto:jlmoreno@cebas.csic.es">jlmoreno@cebas.csic.es</a>
Professional category	Tenured Scientist		Starting data
UNESCO Spec. Code	2511.01, 2511.02, 2511.04, 2511.06, 2511.09, 3101.03, 3103.13		
Keywords	Soil enzyme activity, soil microbial activity, soil organic matter, soil degradation, organic wastes, composting, soil quality, soil bioremediation, soil management, sustainable agriculture.		

### Academic degrees

Bachelor/PhD degree	University	Year
Bachelor of Chemical Sciences	University of Murcia	1993
PhD of Chemical Sciences	University of Murcia	1997

### Quality Indicator of Scientific Production (véanse instrucciones)

Nº of doctoral theses directed in the last 10 years: three.

Total times cited: 2532

Average citations per year: 105.5

Total publication: 79

H-index: 31 (Web of Science)

### CURRICULUM SUMMARY

*The scientific career of the researcher begins at CEBAS-CSIC with the development of his doctoral thesis through which the effects of the use of sewage sludge compost on the quality of the soil and specifically on its heavy metal contamination are studied. In this study it was concluded that the metallic contamination of sewage sludge affects the mineralization of its labile carbon fractions. On the other hand, the Cd is revealed as the most dangerous metal whether it is added to the soil inside the organic matrix of the sewage sludge compost, as well as outside it, since this heavy metal increases significantly its concentration in the cultivated plants of lettuce and barley. Although soil fertility improves in general with the application of sewage sludge compost, there is a risk of salinization and contamination by heavy metals. Microbiological indicators such as the metabolic coefficient reveal a stress of the microbiological community of the soil due to the presence of heavy metals in it. This doctoral thesis gave rise to five publications in international scientific journals indexed in JCR. After the defense of the doctoral thesis at the University of Murcia the researcher made a two-year scientific stay in the Department of Scienza del Suolo and Nutrizione della Pianta of the Faculty of Agrarian Sciences of the University of Florence in Italy under the direction of Prof. Paolo Nannipieri. This postdoctoral stay was funded by the European Union within the framework of the Marie Curie Research Training Program. The most outstanding scientific achievements in this period were the development of specific dose-response models to determine the incidence of heavy metals in the microbiological activity of the soil, by calculating their 50% ecological doses (ED<sub>50</sub>), which represents the dose of heavy metal that reduces a certain microbiological or biochemical indicator of the soil by 50%. During this period, two articles were published in direct collaboration with other researchers from the aforementioned department of the University of Florence. After the return from Italy to CEBAS-CSIC a new stage was opened (2000-2007) in which several researcher contracts followed, highlighting the recruitment under the Ramón y Cajal program of the Science Ministry. During this phase the researcher*

continued in the line of contamination by heavy metals and organic compounds (pesticides, hydrocarbons derived from petroleum and effects on the biological quality of soils.) He also continued with studies of the use of microbiological and biochemical indicators of the soil as biomarkers of the remediation process development. In this stage, the researcher produced seven scientific articles in which he appears as the first author and participated in eight collaborative articles. In 2007 he obtained the position of Tenured Scientist of the CSIC, participating as an IP in several international and national projects, as well as in contracts with companies. After this stage, he consolidated their lines of soil enzymology, biodiversity (molecular techniques), proteomics and bioremediation of degraded soils.

## **MOST RELEVANT MERITS**

### **Publicaciones (last 10 years)**

- Vera, A.; Moreno, J. L.; García, C.; Morais, D.; Bastida, F. 2019. Boron in soil: The impacts on the biomass, composition and activity of the soil microbial community. *Science of the Total Environment* 685: 564-573.
- Moreno, J. L., Torres, I. F., García, C., López-Mondéjar, R.; Bastida, F., 2019. Land use shapes the resistance of the soil microbial community and the C cycling response to drought in a semi-arid area. *Science of The Total Environment* 648: 1018-1030.
- Bastida, F. Jehmlich, N., Martínez-Navarro, J., Bayona, V., García, C., Moreno, J.L. The effects of struvite and sewage sludge on plant yield and the microbial community of a semiarid Mediterranean soil. *Geoderma*, 337: 1051-1057
- Moreno, J.L., Bastida, F., Ondoño, S., García, C., Andrés-Abellán, M., López-Serrano, F.R. 2017. Agro-forestry management of Paulownia plantations and their impact on soil biological quality: The effects of fertilization and irrigation treatments. *Applied Soil Ecology*, 117-118: 46-56.
- Hernandez, T., Chocano, C., Moreno, J.-L., Garcia, C., 2016. Use of compost as an alternative to conventional inorganic fertilizers in intensive lettuce (*Lactuca sativa* L.) crops-Effects on soil and plant. *Soil & Tillage Research* 160, 14-22.
- Bastida, F., Garcia, C., von Bergen, M., Moreno, J.L., Richnow, H.H., Jehmlich, N. 2015. Deforestation fosters bacterial diversity and the cyanobacterial community responsible for carbon fixation processes under semiarid climate: a metaproteomics study. *Applied Soil Ecology* 93, 65-67.
- Bastida, F., Jehmlich, N., Ondoño, S.; von Bergen, M., García, C., Moreno, J.L. 2014. Characterization of the microbial community in biological soil crusts dominated by *Fulgensia desertorum* (Tomin) Poelt and *Squamaria cartilaginea* (With.) P. James and in the underlying soil. *Soil Biology and Biochemistry* 76, 70-79.
- Ondoño, S., Bastida, F., Moreno, J.L. 2014. Microbiological and biochemical properties of artificial substrates: A preliminary study of its application as Technosols or as a basis in Green Roof Systems. *Ecological Engineering* 70, 189-199.
- Hernandez, T., Chocano, C., Moreno, J. L., Garcia, C. Towards a more sustainable fertilization: combined use of compost and inorganic fertilization for tomato cultivation. *Agriculture Ecosystems & Environment* 196, 178-184.
- Moreno, J.L., Bastida, F., Sanchez-Monedero, M.A., Hernandez, T., Garcia, C. 2013. Response of Soil Microbial Community to a High Dose of Fresh Olive Mill Wastewater. *Pedosphere*, 23(3), 281-289.

### **Projects**

Title: Strategies to improve and Project soil quality from the disposal of olive oil mills' wastes in the Mediterranean region.

Funding organization: European Union (LIFE+)

Duration: from January 2009 to december 2012

Principal Researcher: Dr. José Luis Moreno Ortego.

Financing granted (euros): 119.746

Title: *Análisis de implantación de innovadoras cubiertas ecológicas en tejados y paredes de grandes urbes de clima mediterráneo.*

Funding organization: Spanish Ministry of Science and Innovation (Programa INNPACTO)

Duration: from June 1st 2011 to May 31 2014

Principal Researcher: Dr. José Luis Moreno Ortego.

Financing granted (euros): 110.000

Title: Development of specific agricultural practices with the use of recycled wastes suitable for intensively cultivated Mediterranean areas under degradation risk

Funding organization: FP7- ERANET, ARIMNET Coordination of Agricultural Research in the Mediterranean

Duration: from December 2012 to november 2015

Principal Researcher: Dr. José Luis Moreno Ortego.

Financing granted (euros): 70.000

Title: Best practices for Agricultural Wastes (AW) treatment and reuse in the Mediterranean countries

Funding organization: European Union-LIFE+ Environment Policy & Governance

Duration: from 01/09/2011 to 31/08/2015

Principal Researcher: Prof. Kostas Komitsas/Dra. M<sup>a</sup> Teresa Hernández Fernández

Financing granted (euros): 164.694

Title: *Dinamica del C en Suelos Agrícolas Degradados de Zonas Semi-Aridas: Implicacion de Enmiendas Organicas y Comunidades Microbianas Asociadas*

Funding organization: Spanish Ministry of Economy and Competitiveness, *Plan Nacional de Investigación 2010*

Duration: from 01/09/2011 to 31/08/2015

Principal Researcher: Carlos García Izquierdo

Financing granted (euros): 130.000

Title: *Fertilidad edáfica y comunidades microbianas en suelos de agroecosistemas semiáridos irrigados con agua desalinizada: interacción con enmiendas orgánicas.*

Funding organization: Spanish Ministry of Economy and Competitiveness, Plan Nacional de investigación 2017

Duration: from 01/01/2018 to 31/12/2020

Principal Researcher: José Luis Moreno Ortego

Financing granted (euros): 139.000

### **Contracts and technological merits.**

Title: *Creación de una línea de abonos a partir de compuestos orgánicos y minerales para la optimización de las características agroambientales de la fertilización*

Funding organization: FERTIBERIA SA

Principal Researcher: Carlos García Izquierdo

Duration: from 01/02/2007 to 31/01/2010

Financing granted (euros): 112.674,28

Title: *Desarrollo de un Estudio Integral para Determinación del Origen de Episodios Contaminantes del Aire por Malos Olores en las Diputaciones de Hinojar y Barranco Hondo (Lorca)*

Funding organization: CONSEJERIA DE AGRICULTURA Y AGUA DE MURCIA

Principal Researcher: José Luis Moreno Ortego

Duration from: 28/11/2008 to: 27/05/2009

Financing granted (euros): 20.000

Title: *Valorización integral de subproductos mineros desde el punto de vista de su contenido en silicio. Efectos de la aplicación de este tipo de subproductos sobre el sistema suelo-planta*

Funding organization: FERTINAGRO NUTRIENTES, S.A.

Principal Researcher: José Luis Moreno Ortego

Duration from: 15/03/2010 to: 14/03/2012

Financing granted (euros): 36.000

Title: Estudio de los efectos de la aplicación en fertirrigación de nuevos quelatos de hierro sobre la corrección de la clorosis férrica en melocotonero y limonero

Funding organization: Timac-Agro España, S.A.

Principal Researcher: José Luis Moreno Ortego  
Duration from: 01/03/2016 to : 02/05/2017  
Financing granted (euros): 20.000

### **Supervision of PhD thesis and other teaching experience**

Title: *Reciclado en Suelos de Lodos de Refinería: Nuevas Aproximaciones para la Biodegradación de Hidrocarburos Mediante el Manejo de Enmiendas Orgánicas.*

Author: Irene Rodríguez Alhama. University of Murcia.

Supervisors: Dr. María Teresa Hernández and Dr. José Luis Moreno.

Date of defense: 25/09/2013.

Title: *Lodos de depuradora: Una visión integral para su posible aplicación a suelos desde una perspectiva agrícola.*

Author: Francisco José Murcia Navarro. University of Murcia.

Supervisors: Dr. Carlos García Izquierdo and Dr. José Luis Moreno.

Date of defense: 18/12/2013.

Title: Design and characterization of optimal substrates for the growth of Mediterranean plant species in extensive green roof systems under semi-arid conditions.

Author: Sara Ondoño Tovar. Politechnical University of Cartagena.

Supervisors: Dr. José Luis Moreno and Prof. Juan José Martínez.

Date of defense: 23/06/2015.

Responsible for training of research personnel.

Teaching experience in master's courses from the Polytechnic University of Cartagena and the Miguel Hernández University and in "Doctoral Programs" from the University of Murcia.

### **Other merits**

Reviewer for more than 25 SCI journals

Project evaluator for ANEP ("Agencia Nacional de Evaluación y Prospectiva") and AEI (2Agencia Estatal de Investigación).

Project evaluator for evaluation private Company EQA, accredited by Spanish Ministry of Economy for the evaluation of scientific research of private companies.