Miguel Rodríguez-Rodríguez. Scientific highlights. ORCID Code: 0000-0002-9949-1465

The main research interests of Ph.D. Miguel Rodríguez-Rodríguez have been in the areas of hydrogeology of ponds and playa-lakes and coastal wetland management and restoration. Is focus has been to determine how both climate and local drivers, such as groundwater withdrawals influence surface water - groundwater interactions in Groundwater Dependent Ecosystems (GDEs) in several hydrogeological contexts, such as playa-lakes placed over low-permeable materials or coastal lagoons placed over high-permeable sand-dunes. Scopus Metrics overview resumes 36 documents by author, as well as 388 citations by *285* documents and a h-index of 11. In the last 10 years, he published 20 international articles included in the database of the ISI-JCR (Science Edition), of which is the first author in half of them. He has participated as a member of the research team in a total of 12 research projects financed in competitive calls. In addition, he has been PI of 4 Research Agreements (Art. 83) with the administration and has participated in another 10 LIFE+ Contracts, Agreements and/or Projects. He has been co-author of more than 50 scientific articles and national book chapters. He has been and is currently an evaluator and reviewer of research articles of 11 international publications (9 international included in the JCR Science Edition and 2 National included in Scopus). In relation to the attendance at international conferences and seminars: in the last 10 years he has attended to more than 50 International and National Meetings (European Geophysical Union, American Geophysical Union, International Association of Hydrogeology, Society of Wetland Scientists, Spanish Geological Society, etc.) publishing more than 100 contributions in research on hydrogeology and groundwater management. He has participated on the research committee in the IAH (International Association of Hydrogeology) team on multiple occasions.

Due to his participation as PI on technology-knowledge transfer agreements between Pablo de Olavide University and the Guadalquivir River Basin Authority on four occasions since 2011, his contribution on transferring research results to the society has been intense on the last 10 years. One of these contracts had also crystallized in the Doctoral Thesis "Surface Water - Groundwater interactions in sand dune ponds located in Doñana National Park" at the Pablo de Olavide University, presented in February 2020 and tutorized by Dr. Rodríguez-Rodríguez. Another Ph.D. thesis in the characterization and modelling of climate change scenarios in the aquifers of Doñana National Park is now taking place under his supervision.

His teaching activity has focused on the Pablo de Olavide University, of which he has been a Full Professor since 2011. He teaches an Official Master at the universities of Jaén and Pablo de Olavide (Seville). He has directed dozens of both Master's and Bachelor's Thesis at Pablo de Olavide University and the University of Granada in the last 10 years, most of them related to the management and modelling of GDEs (Groundwater Dependent Ecosystems). He has been invited to lecture on wetland hydrogeology at the Universities of Oldenburg (Germany), Calgary (Canada) and Goa (India).

In addition, during the last 10 years the applicant has been granted two six-year term research periods corresponding to the periods 2012 - 2017 (research component) and 2013 – 2018 (transfer component).

The most relevant publications of the applicant during the last 10 years are listed below. Bolded are the ones in which the applicant appears as the first author:

1. **RODRIGUEZ-RODRÍGUEZ, M. BENAVENTE, J., ALCALÁ, F. y PARACUELLOS, M. (2011). Long-term water monitoring in two Mediterranean lagoons as an indicator of land-use changes and intense precipitation events (Adra, Southeastern Spain). Estuarine, Coastal and Shelf Science. 91: 400 – 411.**
2. LAMBÁN, J., MARTOS, S., RUBIO, J.C. y RODRIGUEZ-RODRÍGUEZ, M., (2011). Application of groundwater sustainability indicators to the carbonate aquifer of the Sierra de Becerrero (southern Spain). Environmental Earth Sciences. 64 (7):1835-1848.
3. BELTRÁN, M., MORAL, F. y RODRIGUEZ-RODRÍGUEZ, M (2012). Changes in the hydrological functioning of a playa-lake complex under increasing agricultural pressures (Andalusia, Southern Spain)". Water and Environment Journal. 26: 212-223.
4. **RODRÍGUEZ-RODRÍGUEZ, M., GREEN, A.J., LÓPEZ, R., MARTOS-ROSILLO, S. (2012). Changes in water level, land use, and hydrological budget in a semi-permanent playa lake, southwest Spain. Environmental Monitoring and Assessment. 184(2): 797-810.**
5. MARTOS-ROSILLO, S; RODRÍGUEZ-RODRÍGUEZ, M; PEDRERA, A.; CRUZ-SANJULIÁN, J .J. y RUBIO, J.C. (2013). Groundwater recharge in semi-arid carbonate aquifers under intensive use: The Estepa range aquifers (Seville, southern Spain). Environmental Earth Sciences. 70: 2453–2468.
6. MORAL, F., RODRIGUEZ-RODRÍGUEZ, M., BELTRAN, M. BENAVENTE, J. y CIFUENTES, V.J. (2013). Water regime of playa-lakes from Southern Spain. Conditioning factors and hydrological modeling. Water Environment Research. 85(7): 632-642.
7. **RODRIGUEZ-RODRÍGUEZ, M., SCHILLING, M. (2014). A hydrological simulation of the water regime in two playa lakes located in Southern Spain. Journal of Earth System Science. 123(6): 1295–1305**
8. **RODRIGUEZ-RODRÍGUEZ, M., MARTOS-ROSILLO, S., PEDRERA, A. y BENAVENTE, J. (2015). Ratosa playa-lake in southern spain. Karst pan or compound sink? Environmental Monitoring and Assessment. 187(4), 175-190**
9. PEDRERA, A., MARTOS-ROSILLO, S., GALINDO-ZALDÍVAR, J., RODRÍGUEZ-RODRÍGUEZ, M., BENAVENTE, J., MARTÍN-RODRÍGUEZ, J. F., y ZÚÑIGA-LÓPEZ, M. I. (2016). Unravelling aquifer-wetland interaction using CSAMT and gravity methods: the Mollina-Camorra

aquifer and the Fuente de Piedra playa-lake, southern Spain. Journal of Applied Geophysics. 129, 17-27

10. **RODRIGUEZ-RODRÍGUEZ, M., MARTOS-ROSILLO, S., PEDRERA, A. y CRUZ BERLANGA, M. (2016). "Applying piezometric evolution indicators to facilitate stakeholder's participation in the management of groundwater dependant ecosystems. Case study: Fuente de Piedra playa-lake (southern Spain)" Hydrobiologia. 782:145–154.**
11. **RODRÍGUEZ-RODRÍGUEZ, M., FERNÁNDEZ, A. y MORAL, F. (2016). "Hydrological regime and modeling of three ponds of the Mediterranean area (Andalusia, Spain)". Hydrobiologia. 782:155–168.**
12. **RODRIGUEZ-RODRIGUEZ, M., MARTOS-ROSILLO, S. y PEDRERA, A. (2016). "Hydrogeological behaviour of the Fuente-de-Piedra playa lake and tectonic origin of its basin (Malaga, southern Spain)". Journal of Hydrology, 543, 462-476.**
13. GREEN, A. J., ALCORLO, P., PEETERS, E. T., MORRIS, E. P., ESPINAR, J. L., BRAVO-UTRERA, M. A., BUSTAMANTE, J., DÍAZ-DELGADO, R., KOELMANS, A., MATEO, R., MOOIJ, W., RODRÍGUEZ-RODRÍGUEZ, M. VAN NES, E., y SCHEFFER, M. (2017). "Creating a safe operating space for wetlands in a changing climate". Frontiers in Ecology and the Environment, 15(2), 99-107.
14. **RODRIGUEZ-RODRIGUEZ, M., FERNÁNDEZ-AYUSO, A., HAYASHI, M. y MORAL-MARTOS, F. (2018). Using Water Temperature, Electrical Conductivity, and pH to Characterize Surface–Groundwater Relations in a Shallow Ponds System (Doñana National Park, SW Spain). Water, 10, 1406-1419.**
15. FERNÁNDEZ-AYUSO, A.; RODRIGUEZ-RODRIGUEZ, M. y BENAVENTE-HERRERA, J. (2018). Assessment of the hydrological status of Doñana dune ponds. A natural World Heritage site under threat. Hydrological Sciences Journal, 63(15-16): 2048-2059.
16. FERNÁNDEZ-AYUSO, A.; AGUILERA, H.; GUARDIOLA-ALBERT, C.; RODRIGUEZ-RODRIGUEZ, M.; HEREDIA, J. y NARANJO-FERNÁNDEZ, N. (2019). Unraveling the Hydrological Behavior of a Coastal Pond in Doñana National Park (Southwest Spain). Groundwater, 57(6): 895-906.
17. NARANJO-FERNÁNDEZ, N.; GUARDIOLA-ALBERT, C.; AGUILERA, H.; SERRANO-HIDALGO, C.; RODRIGUEZ-RODRIGUEZ, M; FERNÁNDEZ-AYUSO, A.; RUIZ-BERMUDO, F. y MONTERO-GONZÁLEZ, E. (2020). Relevance of spatio-temporal rainfall variability regarding groundwater management challenges under global change. Case study in Doñana (SW Spain). Stochastic Environmental Research and Risk Assessment, 34 (9): 1289-1311
18. **RODRIGUEZ-RODRIGUEZ, M; AGUILERA, H.; GUARDIOLA-ALBERT, C. y FERNÁNDEZ-AYUSO, A. Climate influence vs. anthropogenic drivers in surface water-groundwater interactions in eight ponds of Doñana Natural Area (southern Spain). (2021). Wetlands. 41 (2). https://doi.org/10.1007/s13157-021-01425-6**

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