

# Alejandro Rodriguez-Sanchez

Nationality : Spain

## Contact details:

Mobile phone : (+34) 615-069-974

email : rodri719@purdue.edu

## Address

625 Agriculture Mall Dr, West Lafayette, IN 47907, USA

## Profile

**Objetivo** I am looking for a postdoctoral position in the fields of microbial ecology or environmental engineering in order to continue my research career.



## Education

**obtained on 02/27/2019 Ph.D. Civil Engineering (Environmental Technologies)**

University of Granada (Granada, Spain)

**obtained on 09/26/2013 MSc Science and Technology for Water Quality**

University of Granada (Granada, Spain)

**obtained on 10/16/2012 Civil Engineering**

University of Granada (Granada, Spain)

**from 09/23/2010 to 06/09/2011 Exchange Student Program**

University of California Davis (Davis, CA, USA)

**2018/06/01-2018/10/10 Research Stay, Department of Microbiology**

University College Cork (Cork, Ireland)

## Languages

**Spanish** (native)

**English** (full working proficiency)

## Professional abilities

Full Ofimatics Package

Mathematical and Statistical software: R, MatLab, Mathematica

Molecular biology software

Microbiome studies: mothur, MEGA, Minimum Entropy Decomposition, PICRUST, DADA

Metatranscriptomics and genomics studies: SPAdes, Trinity, BLAST

Operation of bioreactors: biofilters, membrane bioreactors, moving bed biofilm reactors, aerobic granular sludge systems, CANON systems

Physicochemical determinations in bioprocesses

Molecular biology laboratory analysis: DNA extraction, Quantitative real-time PCR, Optic microscopy, cultivation and isolation of microorganisms

Others: Analysis of minerals, X-Ray diffractometry

## Bibliometry (ORCID 0000-0001-6647-4944)

### Google Scholar

Documents: **42**  
of which  
Articles: **38**  
(Q1 Articles: **17**)  
Book chapters: **3**  
PhD Thesis: **1**

Citations: **524**  
h index: **14**  
i10 index: **18**

### Scopus

Documents: **39**  
of which  
Articles: **36**  
(Q1 Articles: **17**)

Citations: **450**  
h index: **13**  
i10 index: **17**

## Publications (listed citations are according to Scopus)

- **Rodriguez-Sanchez A.**, Leyva-Diaz JC., Muñoz-Palazon B., Gonzalez-Lopez J., Manuel Poyatos JM.  
- Effect of variable salinity wastewater on performance and kinetics of membrane-based bioreactors  
- (2019) **Journal of Chemical Technology & Biotechnology**  
- DOI: 10.1002/jctb.6134  
- DOCUMENT Type: Article  
- PUBLICATION STAGE: Accepted
- Muñoz-Palazon B., **Rodriguez-Sanchez A.**, Hurtado-Martinez M, Manuel de Castro I., Juarez-Jimenez B., Gonzalez-Martinez A., Gonzalez-Lopez J.  
- Performance and microbial community structure of an aerobic granular sludge system at different phenolic acid concentrations  
- (2019) **Journal of Hazardous Materials**, 376, pp. 58-67  
- DOI: 10.1016/j.jhazmat.2019.05.015  
- DOCUMENT Type: Article  
- PUBLICATION STAGE: Final
- **Rodriguez-Sanchez, A.**, Leyva-Diaz, J.C., Poyatos, J.M., Gonzalez-Lopez, J.  
- Influent salinity conditions affect the bacterial communities of biofouling in hybrid MBBR-MBR systems  
- (2019) **Journal of Water Process Engineering**, 30, 100650  
- DOI: 10.1016/j.jwpe.2018.07.001  
- DOCUMENT TYPE: Article in Press  
- PUBLICATION STAGE: Final
- **Rodriguez-Sanchez, A.**, Muñoz-Palazon, B., Hurtado-Martinez, M., Maza-Marquez, P., Gonzalez-Lopez, J., Vahala, R., Gonzalez-Martinez, A.  
- Microbial ecology dynamics of a partial nitrification bioreactor with Polar Arctic Circle activated sludge operating at low temperature  
- (2019) **Chemosphere**, 255, pp. 73-82  
- DOI: 10.1016/j.chemosphere.2019.03.012  
- DOCUMENT Type: Article  
- PUBLICATION STAGE: Final
- **Rodriguez-Sanchez, A.**, Calero-Diaz, G., Martin-Pascual, J., Lopez-Lopez, C., Torres, J.C., Poyatos, J.M.  
- Insight on the bacterial ecology in membrane bioreactor: Operational conditions effect over dominant ecological players  
- (2019) **AIChE Journal**, 65 (2), pp. 536-548.  
- DOI: 10.1002/aic.16456  
- DOCUMENT TYPE: Article  
- PUBLICATION STAGE: Final
- **Rodriguez-Sanchez, A.**, Leyva-Diaz, J.C., Muñoz-Palazon, B., Poyatos, J.M., Gonzalez-Lopez, J.  
- Influence of salinity cycles in bioreactor performance and microbial community structure of membrane-based tidal-like variable salinity wastewater treatment systems  
- (2019) **Environmental Science and Pollution Research**, 26 (1), pp. 514-527.  
- DOI: 10.1007/s11356-018-3608-4  
- DOCUMENT TYPE: Article  
- PUBLICATION STAGE: Final
- Gonzalez-Martinez, A., Sihvonen, M., Muñoz-Palazon, B., **Rodriguez-Sanchez, A.**, Mikola, A., Vahala, R.  
- Microbial ecology of full-scale wastewater treatment systems in the Polar Arctic Circle: Archaea, Bacteria and Fungi  
- (2018) **Scientific Reports**, 8 (1), art. no. 2208  
- DOI: 10.1038/s41598-018-20633-5  
- DOCUMENT TYPE: Article  
- PUBLICATION STAGE: Final  
- ACCESS TYPE: Open Access

- Gonzalez-Martínez, A., Chengyuan, S., **Rodríguez-Sánchez, A.**, Pozo, C., Gonzalez-Lopez, J., Vahala, R.
- Application of microbial fuel cell technology for wastewater treatment and electricity generation under Nordic countries climate conditions: Study of performance and microbial communities
- (2018) **Bioresource Technology**, 270, pp. 1-10.
- DOI: 10.1016/j.biortech.2018.09.014
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- **Rodríguez-Sánchez, A.**, Muñoz-Palazon, B., Hurtado-Martinez, M., Rivadeneyra, M.A., Poyatos, J.M., Gonzalez-Lopez, J.
- Maximum Influent Salinity Affects the Diversity of Mineral-Precipitation-Mediating Bacterial Communities in Membrane Biofilm of Hybrid Moving Bed Biofilm Reactor-Membrane Bioreactor
- (2018) **Water, Air, and Soil Pollution**, 229 (11), art. no. 342
- DOI: 10.1007/s11270-018-4020-x
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- **Rodríguez-Sánchez, A.**, Leyva-Diaz, J.C., Muñoz-Palazon, B., Rivadeneyra, M.A., Hurtado-Martinez, M., Martin-Ramos, D., Gonzalez-Martinez, A., Poyatos, J.M., Gonzalez-Lopez, J.
- Biofouling formation and bacterial community structure in hybrid moving bed biofilm reactor-membrane bioreactors: Influence of salinity concentration
- (2018) **Water** (Switzerland), 10 (9), art. no. 1133
- DOI: 10.3390/w10091133
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
- ACCESS TYPE: Open Access
  
- Muñoz-Palazon, B., Pesciaroli, C., **Rodríguez-Sánchez, A.**, Gonzalez-Lopez, J., Gonzalez-Martinez, A.
- Pollutants degradation performance and microbial community structure of aerobic granular sludge systems using inoculums adapted at mild and low temperature
- (2018) **Chemosphere**, 204, pp. 431-441.
- DOI: 10.1016/j.chemosphere.2018.04.062
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- Gonzalez-Martinez, A., Muñoz-Palazon, B., Maza-Márquez, P., **Rodríguez-Sánchez, A.**, Gonzalez-Lopez, J., Vahala, R.
- Performance and microbial community structure of a polar Arctic Circle aerobic granular sludge system operating at low temperature
- (2018) **Bioresource Technology**, 256, pp. 22-29
- DOI: 10.1016/j.biortech.2018.01.147
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- **Rodríguez-Sánchez, A.**, Leyva-Diaz, J.C., Gonzalez-Lopez, J., Poyatos, J.M.
- Membrane bioreactor and hybrid moving bed biofilm reactor-membrane bioreactor for the treatment of variable salinity wastewater: Influence of biomass concentration and hydraulic retention time
- (2018) **Chemical Engineering Journal**, 336, pp. 102-111
- DOI: 10.1016/j.cej.2017.10.118
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- Gonzalez-Martinez, A., Muñoz-Palazon, B., **Rodríguez-Sánchez, A.**, Gonzalez-Lopez, J.
- New concepts in anammox processes for wastewater nitrogen removal: Recent advances and future prospects
- (2018) **FEMS Microbiology Letters**, 365 (6), art. no. fny031
- DOI: 10.1093/femsle/fny031
- DOCUMENT TYPE: Short Survey
- PUBLICATION STAGE: Final

- Gonzalez-Martinez, A., Margareto, A., **Rodriguez-Sanchez, A.**, Pesciaroli, C., Diaz-Cruz, S., Barcelo, D., Vahala, R.
- Linking the effect of antibiotics on partial-nitrification biofilters: Performance, microbial communities and microbial activities
- (2018) **Frontiers in Microbiology**, 9 (FEB), art. no. 354
- DOI: 10.3389/fmicb.2018.00354
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
- ACCESS TYPE: Open Access
  
- Leyva-Díaz, J.C., **Rodríguez-Sánchez, A.**, González-López, J., Poyatos, J.M.
- Effect of salinity variation on the autotrophic kinetics of the start-up of a membrane bioreactor and hybrid moving bed biofilm reactor-membrane bioreactor at low hydraulic retention time
- (2018) **Water Science and Technology**, 77 (3), pp. 714-720.
- DOI: 10.2166/wst.2017.585
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- Muñoz-Palazon, B., **Rodriguez-Sanchez, A.**, Castellano-Hinojosa, A., Gonzalez-Lopez, J., van Loosdrecht, M.C.M., Vahala, R., Gonzalez-Martinez, A.
- Quantitative and qualitative studies of microorganisms involved in full-scale autotrophic nitrogen removal performance
- (2018) **AIChE Journal**, 64 (2), pp. 457-467
- DOI: 10.1002/aic.15925
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- **Rodriguez-Sanchez, A.**, Leyva-Diaz, J.C., Gonzalez-Martinez, A., Poyatos, J.M.
- Linkage of microbial kinetics and bacterial community structure of MBR and hybrid MBBR–MBR systems to treat salinity-amended urban wastewater
- (2017) **Biotechnology Progress**, 33 (6), pp. 1483-1495
- DOI: 10.1002/btpr.2513
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
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- **Rodríguez-Sánchez, A.**, Leyva-Díaz, J.C., Poyatos, J.M., González-López, J.
- Performance and kinetics of membrane and hybrid moving bed biofilm-membrane bioreactors treating salinity wastewater
- (2017) **AIChE Journal**, 63 (8), pp. 3329-3342
- DOI: 10.1002/aic.15694
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- Gonzalez-Martinez, A., Muñoz-Palazon, B., **Rodriguez-Sanchez, A.**, Maza-Márquez, P., Mikola, A., Gonzalez-Lopez, J., Vahala, R.
- Start-up and operation of an aerobic granular sludge system under low working temperature inoculated with cold-adapted activated sludge from Finland
- (2017) **Bioresource Technology**, 239, pp. 180-189
- DOI: 10.1016/j.biortech.2017.05.037
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- Gonzalez-Martinez, A., **Rodriguez-Sanchez, A.**, Rivadeneyra, M.A., Rivadeneyra, A., Martin-Ramos, D., Vahala, R., Gonzalez-Lopez, J.
- 16S rRNA gene-based characterization of bacteria potentially associated with phosphate and carbonate precipitation from a granular autotrophic nitrogen removal bioreactor
- (2017) **Applied Microbiology and Biotechnology**, 101 (2), pp. 817-829
- DOI: 10.1007/s00253-016-7914-9
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final

- **Rodriguez-Sanchez, A.**, Margareto, A., Robledo-Mahon, T., Aranda, E., Diaz-Cruz, S., Gonzalez-Lopez, J., Barcelo, D., Vahala, R., Gonzalez-Martinez, A.
- Performance and bacterial community structure of a granular autotrophic nitrogen removal bioreactor amended with high antibiotic concentrations
- (2017) **Chemical Engineering Journal**, 325, pp. 257-269
- DOI: 10.1016/j.cej.2017.05.078
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- Gonzalez-Martinez, A., **Rodriguez-Sanchez, A.**, van Loosdrecht, M.C.M., Gonzalez-Lopez, J., Vahala, R.
- Detection of comammox bacteria in full-scale wastewater treatment bioreactors using tag-454-pyrosequencing
- (2016) **Environmental Science and Pollution Research**, 23 (24), pp. 25501-25511
- DOI: 10.1007/s11356-016-7914-4
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- **Rodriguez-Sanchez, A.**, Mikola, A., Muñoz-Palazon, B., Vahala, R., Gonzalez-Martinez, A.
- Performance and bacterial community structure of a submerged biofilter subjected to high ammonium and high organic carbon concentrations
- (2016) **International Biodeterioration and Biodegradation**, 115, pp. 224-233
- DOI: 10.1016/j.ibiod.2016.09.001
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- **Rodriguez-Sanchez, A.**, Purswani, J., Lotti, T., Maza-Marquez, P., van Loosdrecht, M.C.M., Vahala, R., Gonzalez-Martinez, A.
- Distribution and microbial community structure analysis of a single-stage partial nitritation/anammox granular sludge bioreactor operating at low temperature
- (2016) **Environmental Technology** (United Kingdom), 37 (18), pp. 2281-2291
- DOI: 10.1080/09593330.2016.1147613
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
- 
- **Rodriguez-Sanchez, A.**, Munoz-Palazon, B., Maza-Marquez, P., Gonzalez-Lopez, J., Vahala, R., Gonzalez-Martinez, A.
- Process performance and bacterial community dynamics of partial-nitritation biofilters subjected to different concentrations of cysteine amino acid
- (2016) **Biotechnology Progress**, 32 (5), pp. 1254-1263
- DOI: 10.1002/btpr.2331
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- Gonzalez-Martinez, A., Garcia-Ruiz, M.J., **Rodriguez-Sanchez, A.**, Osorio, F., Gonzalez-Lopez, J.
- Archaeal and bacterial community dynamics and bioprocess performance of a bench-scale two-stage anaerobic digester
- (2016) **Applied Microbiology and Biotechnology**, 100 (13), pp. 6013-6033
- DOI: 10.1007/s00253-016-7393-z
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- Gonzalez-Martinez, A., **Rodriguez-Sanchez, A.**, Garcia-Ruiz, M.J., Osorio, F., Gonzalez-Lopez, J.
- Impact of methionine on a partial-nitritation biofilter
- (2016) **Environmental Science and Pollution Research**, 23 (7), pp. 6651-6660
- DOI: 10.1007/s11356-015-5889-1
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- Gonzalez-Martinez, A., **Rodriguez-Sanchez, A.**, Garcia-Ruiz, M.J., Muñoz-Palazon, B., Cortes-Lorenzo, C., Osorio, F., Vahala, R.
- Performance and bacterial community dynamics of a CANON bioreactor acclimated from high to low operational temperatures
- (2016) **Chemical Engineering Journal**, 287, pp. 557-567
- DOI: 10.1016/j.cej.2015.11.081
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final

- Gonzalez-Martinez, A., **Rodriguez-Sanchez, A.**, Lotti, T., Garcia-Ruiz, M.-J., Osorio, F., Gonzalez-Lopez, J., Van Loosdrecht, M.C.M.
- Comparison of bacterial communities of conventional and A-stage activated sludge systems
- (2016) **Scientific Reports**, 6, art. no. 18786.
- DOI: 10.1038/srep18786
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- Gonzalez-Martinez, A., Osorio, F., Morillo, J.A., **Rodriguez-Sanchez, A.**, Gonzalez-Lopez, J., Abbas, B.A., van Loosdrecht, M.C.M.
- Comparison of bacterial diversity in full scale anammox bioreactors operated under different conditions
- (2015) **Biotechnology Progress**, 31 (6), pp. 1464-1472
- DOI: 10.1002/btpr.2151
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- Gonzalez-Martinez, A., **Rodriguez-Sanchez, A.**, Muñoz-Palazon, B., Garcia-Ruiz, M.-J., Osorio, F., Van Loosdrecht, M.C.M., Gonzalez-Lopez, J.
- Microbial community analysis of a full-scale DEMON bioreactor
- (2015) **Bioprocess and Biosystems Engineering**, 38 (3), pp. 499-508
- DOI: 10.1007/s00449-014-1289-z
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- Gonzalez-Martinez, A., Osorio, F., **Rodriguez-Sanchez, A.**, Martinez-Toledo, M.V., Gonzalez-Lopez, J., Lotti, T., van Loosdrecht, M.C.M.
- Bacterial community structure of a lab-scale anammox membrane bioreactor
- (2015) **Biotechnology Progress**, 31 (1), pp. 186-193
- DOI: 10.1002/btpr.1995
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- Gonzalez-Martinez, A., Leyva-Díaz, J.C., **Rodriguez-Sanchez, A.**, Muñoz-Palazon, B., Rivadeneyra, A., Poyatos, J.M., Rivadeneyra, M.A., Martinez-Toledo, M.V.
- Isolation and metagenomic characterization of bacteria associated with calcium carbonate and struvite precipitation in a pure moving bed biofilm reactor-membrane bioreactor
- (2015) **Biofouling**, 31 (4), pp. 333-348.
- DOI: 10.1080/08927014.2015.1040006
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- Gonzalez-Martinez, A., **Rodriguez-Sanchez, A.**, Rodelas, B., Abbas, B.A., Martinez-Toledo, M.V., Van Loosdrecht, M.C.M., Osorio, F., Gonzalez-Lopez, J.
- 454-Pyrosequencing Analysis of Bacterial Communities from Autotrophic Nitrogen Removal Bioreactors Utilizing Universal Primers: Effect of Annealing Temperature
- (2015) **BioMed Research International**, 2015, art. no. 892013.
- DOI: 10.1155/2015/892013
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final
  
- Gonzalez-Martinez, A., **Rodriguez-Sanchez, A.**, Martinez-Toledo, M.V., Garcia-Ruiz, M.-J., Hontoria, E., Osorio-Robles, F., Gonzalez-Lopez, J.
- Effect of ciprofloxacin antibiotic on the partial-nitrification process and bacterial community structure of a submerged biofilter
- (2014) **Science of the Total Environment**, 476-477, pp. 276-287.
- DOI: 10.1016/j.scitotenv.2014.01.012
- DOCUMENT TYPE: Article
- PUBLICATION STAGE: Final

- **Rodriguez-Sanchez, A.**, Gonzalez-Martinez, A., Martinez-Toledo, M.V., Garcia-Ruiz, M.J., Osorio, F., Gonzalez-Lopez, J.
- The effect of influent characteristics and operational conditions over the performance and microbial community structure of partial nitrification reactors
- (2014) **Water** (Switzerland), 6 (7), pp. 1905-1924.
- DOI: 10.3390/w6071905
- DOCUMENT TYPE: Review
- PUBLICATION STAGE: Final