

CURRICULUM VITAE

ANGEL VALVERDE PORTAL

Associate Professor
University of the Free State

PERSONAL INFORMATION

Born: 26th April 1970.

Nationality: Spanish, Permanent resident in South Africa.

Home address: 4 Torino, Blinkblaarweg St, Woodland hills, Bloemfontein 9301

Work address: Department of Microbial, biochemical and food biotechnology (Room A6), University of the Free State, 205 Nelson Mandela Drive, Park West, Bloemfontein 9300, South Africa.

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EDUCATION

2003 PhD in Microbiology. University of Salamanca (Spain).

1993 BSc in Biology. University of Salamanca (Spain).

PROFESSIONAL EXPERIENCE

6/2018-present

Associate Professor. Department of Microbial, Biochemical and Food Biotechnology. University of the Free State, South Africa.

7/2017-5/2018

Senior Researcher. Department of Microbial, Biochemical and Food Biotechnology. University of the Free State, South Africa.

6/2012-6/2017

Research Fellow. Centre for Microbial Ecology and Genomics (CMEG). University of Pretoria, South Africa.

3/2011-5/2012

Post-Doctoral Research Associate. Institute for Microbial Biotechnology and Metagenomics (IMBM). University of Western Cape, South Africa.

4/2007-2/2011

Post-Doctoral Researcher. Institute for Natural Resources and Agrobiography (IRNASA). Spanish National Research Council, Spain.

2/2005-1/2007

Post-Doctoral Fellow. Faculty of Agriculture. The Hebrew University of Jerusalem, Israel.

5/2003-12/2004

Post-Doctoral Researcher. Institute for Natural Resources and Agrobiology (IRNASA). Spanish National Research Council, Spain.

IDENTIFIERS, CITATION ANALYSIS AND NRF RATING

Identifiers:

- ResearcherID: C-1308-2009
- Scopus: 7005337772
- ORCID: 0000-0003-0439-9605

Scopus (July 2019): number of citations: 1741; H index: 26

<http://www.scopus.com/authid/detail.uri?authorId=7005337772>

Google Scholar (July 2019): number of citations: 2752; H index: 29

<https://scholar.google.co.za/citations?user=z0FNnWkAAAAJ&hl=en>

NRF Rating: C2 (2014-2018)

CURRENT RESEARCH TOPICS AND INTERESTS

My research covers different aspects of microbial biodiversity. Using a system biology approach, my main interest is to better understand how abiotic and biotic factors shape the dynamics of microbial communities in space and time. These insights have the potential to increase our ability to predict and manage microbial communities to achieve desired outcomes. For instance, the bioremediation of contaminated water and soil.

TEACHING

Lectures

Applied microbial physiology (MCBP6844). University of the Free State (2018-present).

Microbial ecology and environmental microbiology (MCBE3724). University of the Free State (2018-present).

Bacteriology (MBY251). Metabolic diversity of microorganisms. Undergraduate course. University of Pretoria (2107).

Training

Marker-gene metagenomics data analysis. Postgraduate course. University of the Free State (2018-present).

Bioinformatics: analysing microbial diversity. Postgraduate course. Université de la Manouba, Tunisia (2016).

R for microbial diversity analyses. Postgraduate course. University of Pretoria (2013, 2014).

Statistical regression in microbial ecology. Postgraduate course. University of Pretoria (2013).

Analysis of microbial diversity: MOTHUR. Postgraduate course. National University of San Martin, Argentina (2013).

Biotechnological Applications of Microorganisms. Postgraduate course. University of Salamanca, Spain (2009).

Microorganisms and Biotechnology for future agriculture. Postgraduate course. University of Salamanca, Spain (2008-2009).

SUPERVISION OF STUDENTS

PhD

Karabelo Moloantoa. “Denitrification: A metagenomics and kinetic study of bacterial consortia from nitrate contaminated sites”. University of the Free State, South Africa (2017-present).

Jou-An Chen. “Scoping and quantification study of emerging contaminants in the Free State and Eastern Cape regions: effects on bacterial diversity and potential fate of compounds”. University of the Free State, South Africa (2017-present).

Abidemi Ojo. “Characterization of the sequential degradation of chloroethene compounds by a site specific mixed bacterial consortium”. University of the Free State, South Africa (2017-present).

Joel Dube. “Root-associated microorganisms in crop productivity”. University of Pretoria, South Africa (2014-2019).

Maleke Maleke. “Insights into Rare Earth Metal microbe interactions using a known metal resistant bacterium and a site-specific isolate”. University of the Free State, South Africa (2017-2019).

Casper Kamutando. “Plant invasions and the role of mutualistic microbes”. University of Pretoria, South Africa (2015-2018).

Tanzelle Oberholster. “Unravelling the sorghum root microbiome: a route to enhancing crop performance”. University of Pretoria, South Africa (2015-2018).

Josephine Zimudzi. “Occurrence, causal agents and management of atypical potato skin blemishes in South Africa and Zimbabwe”. University of Pretoria, South Africa (2014-2017).

María Victoria Quiroga. “Peat bogs: temporal and spatial diversity of bacterial communities”. National University of San Martin, Argentina (2013-2014).

Gaston Aziz. “Phosphate solubilizing bacteria in soils under crop-pasture rotations”. IRNASA-CSIC, Spain (2010-11).

Marisol Medina-Sierra. “Microbiological characterization of a prairie soil under different management regimes”. University of Salamanca, Spain (2008-11).

Anat Lerner. “Phenotypic variation in *Azospirillum brasilense*”. The Hebrew University of Jerusalem, Israel (2005-7).

MSc

Elzette van der Walt. “Analysing the potential of the African elephant gut microbiome for biogas optimization”. University of the Free State, South Africa (2018-present).

Diego Castillo Vaca. “Exploring the blood microbiome in Alzheimer’s disease and healthy individuals”. University of the Free State, South Africa (2017-2019).

Corinne Fourie. “Novel insights into precipitation and interactions of copper with *Desulfosporosinus* sp. and *Rhodanobacter* sp.”. University of the Free State, South Africa (2017-2019).

Gerhard Potgieter. “Anthropogenic arsenic biological management: characterization of arsenic hyper-resistance in bacterial consortia”. University of the Free State, South Africa (2017-2019).

Pieter Bowman. “Analysis of the bacterial microbiome from prostate tissue of South African men”. University of Pretoria, South Africa (2015-2019).

Percy Mutseka. “Distribution and diversity of rhizobial populations associated with *Acacia dealbata* in South Africa”. University of Pretoria, South Africa (2016-2018).

Linda Nhukarume. “Microbial community structure of soil from potato fields”. University of Pretoria, South Africa (2014-2015).

Jarishma K Gokul. “Micro-eukaryotic diversity in Antarctic hypolithons”. University of Western Cape, South Africa (2011-12).

Honours

Lebo Duba. “Cold shock production of a single chain variable fragment against human tissue factor in *E. coli* Shuffle using 5L Bioreactors”. University of the Free State, South Africa (2018).

Happiness P. January. “Diversity and function of bacterial communities during AMD treatment by the BDAS system”. University of the Free State, South Africa (2017).

Bhaveni B. Kooverjee. “Are Antarctic soil microbial communities resistant and resilient to increased nitrogen input?”. University of Pretoria, South Africa (2016).

Derya Bozkale. “Microbial ecology, contamination and pathogen transport in the Olifants River, Kruger National Park”. University of Pretoria. South Africa (2016).

Felix Oloo. “Bacterial phylogenetic and functional diversity in Sub-Antarctic peatlands from Tierra del Fuego, Argentina”. University of Pretoria, South Africa (2015).

Tsakani M. Miyambo. “Unveiling endophytic bacterial communities in the Fynbos biome”. University of Pretoria, South Africa (2014).

GRANTS RECEIVED

Foundational biodiversity information programme (FBIP-NRF). “Defining functional microbiomes of two major crops in South Africa for improved productivity”.

R6,002,252. Period: 2019-2021. Co-investigator.

UFS-CUT join research programme. Unravelling the microbiome of Sesotho (sorghum beer) through targeted metagenomics. R100,000. Period: 2018-2019. Principal investigator.

USAID grant. “African soil microorganisms as a critical resource for agriculture and biotechnology”. R6,900,000. Period: 2016-2018. Co-Investigator

Foundational biodiversity information programme (FBIP-NRF). “What are the impacts of global change on arid soil microbial communities?” R170,000. Period: 2016. Co-investigator.

Genomic research institute programme (GRI, UP). “Bacterial phylogenetic and functional diversity in Sub-Antarctic peatlands from Tierra del Fuego (Argentina)”. R60,000. Period: 2015. Principal investigator.

Competitive programme for rated researchers (NRF). “Plant invasions and the role of mutualistic microbes: *Acacia dealbata* as a case study”. R1,048,700. Period: 2015-2017. Principal investigator.

Research and technology fund 2014 (NRF). “Root-associated microorganisms in crop productivity”. R250,000. Period: 2014. Co-investigator.

Incentive funding for rated researchers (NRF). R240,000. Period: 2014-2019.

Thuthuka programme (NRF): “Ecosystem functioning: hypolithic communities as a model system”. R558,400. Period: 2014-2016. Principal investigator.

CRP-ICGEP research grant (CRP-ICGEP): “Unravelling the sorghum root microbiome: a route to enhancing crop performance”. R794,000. Period: 2014-2016. Co-investigator.

Research development programme (UP): “Effects of cyanobacterial diversity of food web structure in a desert ecosystem”. R150,000. Period: 2013-2015. Principal investigator.

Foundational biodiversity information programme (FBIP-NRF): “Unveiling endophytic bacterial communities in the Fynbos biome”. R100,000. Period: 2014. Principal investigator.

Ministry of Science and Innovation (Spanish Government): “Optimization of the diversity-carbon balance linkage through agro-pastoral management strategies”. €120,000. Period: 2009-2011. Principal investigator.

ACADEMIC RECOGNITION

Society Membership

South African Society for Microbiology, American Society for Microbiology.

National Responsibilities

Member, Foundational Biodiversity Information Programme (FBIP) Steering Committee (2018-2021).

Grant Reviewing

Regular reviewer for National Evaluation and Foresight Agency (ANEP, Spain), Israel Science Foundation (ISR, Israel) and National Research Foundation (NRF, South Africa).

Peer-Review Journals

Editorial board: *Frontiers in Microbiology*.

Regular reviewer for *ISME Journal*, *Molecular Ecology*, *Microbial Ecology*, *FEMS Microbiology Ecology*, etc.

PhD examinations

Stellenbosch University, South Africa (2018).

North West University, South Africa (2018).

Macquarie University, Australia (2018)

University of Pretoria, South Africa (2016-2017).

University of Salamanca, Spain (2008-2010).

Other Examining

Internal Examiner for Microbiology Honours program, University of the Free State (2017-present).

Internal Examiner for Genetics Honours program, University of Pretoria (2014-2016).

External Examiner for Microbiology MSc degrees, University of Venda (2017).

PUBLICATIONS

Articles in international, peer-reviewed, journals

66. **Valverde A**, Cason ED, Gomez-Arias A, Bozkale D, Govender D, Riddell E, Cowan D (2018) Microbial community composition, but neither function nor alpha diversity, responds to chronic pollution in river water and sediments. Under review
65. Maleke M, **Valverde A**, Gomez-Arias A, Cason E, Vermeulen J-G, Coetsee-Hugo L, Swart HC, van Heerden E, Castillo JC. Anaerobic reduction of europium by a *Clostridium* strain as a strategy for rare earth biorecovery. *Sci Rep*. Accepted
64. Cason ED, Vermeulen J-G, Müller WJ, van Heerden E, **Valverde A**. (2019) Aerobic and anaerobic enrichment cultures highlight the pivotal role of facultative anaerobes in soil hydrocarbon degradation. *J Environ Sci Health, part A*. 54: 408-415.

63. Dube JP, **Valverde A**, Steyn JM, Cowan DA, Van der Waals JE (2019) Differences in bacterial diversity, composition and function due to long-term agriculture in soils in the Eastern Free State of South Africa. *Diversity*. 11:61.
62. Maleke M, **Valverde A**, Vermeulen J-G, Cason ED, Gomez-Arias A, Moloantoa KM, Coetsee-Hugo L, Swart HC, van Heerden E, Castillo JC (2019) Biomineralization and bioaccumulation of europium by a thermophilic metal resistant bacterium. *Front Microbiol*. 10:81.
61. Flores-Felix JD, Sánchez-Juanes F, García-Fraile P, **Valverde A**, Mateos PF, González-Buitrago JM, Velázquez E, Rivas R (2019) *Phaseolus vulgaris* is nodulated by the symbiovar *viciae* of several genospecies of *Rhizobium laguerreae* complex in a Spanish region where *Lens culinaris* is the traditionally cultivated legume. *Syst Appl Microbiol*. 42: 240-247.
60. Kamutando CN, Vikram S, Kamgan-Nkuekam G, Makhalanyane TP, Greve M, Le Roux JJ, Richardson DM, Cowan DA, **Valverde A**. (2019) The functional potential of the rhizospheric microbiome of an invasive tree species, *Acacia dealbata*. *Microb Ecol*. 77: 191-200.
59. Zimudzi J, van der Waals JE, Coutinho TA, Cowan DA, **Valverde A**. (2018) Temporal shifts of fungal communities in the rhizosphere and on tubers in potato fields. *Fungal Biol*. 122: 928-934.
58. Nkuekam KG, Cowan DA, **Valverde A**. (2018) Arable agriculture changes soil microbial communities in the South African grassland biome. *S Afr J Sci*. 114: #2017-0288.
57. Oberholster T, Vikram S, Cowan DA, **Valverde A**. (2018) Key microbial taxa in the rhizosphere of sorghum and sunflower grown in crop rotation. *Sci Total Environ*. 624: 530-539.
56. Van Goethem MW, Makhalanyane TP, Cowan DA, **Valverde A**. (2017) Cyanobacteria and alphaproteobacteria may facilitate cooperative interactions in niche communities. *Front Microbiol*. 8: 2099.
55. Kamutando CN, Vikram S, Kamgan-Nkuekam G, Makhalanyane TP, Greve M, Le Roux JJ, Richardson DM, Cowan DA, **Valverde A**. (2017) Soil nutritional status and biogeography influence rhizosphere microbial communities associated with the invasive tree *Acacia dealbata*. *Sci Rep*. 7: 6472.
54. Medina-Sierra M, Igual-Arroyo M, Restrepo-Betancur F, **Valverde A**, Santa-Regina I (2017) Relationship between plant species diversity and plant biomass of orchard grass and lucerne sown in different ratios in the province of Salamanca, Spain. *Open J For*. 7: 336-351.
53. **Valverde A**, Gonzalez-Tirante M, Medina-Sierra M, Rivas R, Santa-Regina I, Igual JM. (2017) Culturable bacterial diversity from the chestnut (*Castanea sativa* Mill.) phyllosphere and screening of antagonism against the fungi causing the chestnut blight and ink diseases. *AIMS Microbiol*. 3: 293-314.
52. Miyambo T, Makhalanyane TP, Cowan D, **Valverde A**. (2016) Plants of the Fynbos biome harbour host species-specific bacterial communities. *FEMS Microbiol Lett*. 363: fnw122.

51. Van Goethem MW, Makhalanyane TP, **Valverde A**, Cary SC, Cowan DA. (2016) Characterization of bacterial communities in lithobionts and soil niches from Victoria Valley, Antarctica. *FEMS Microbiol Ecol.* 92: fiw051.
50. Armstrong A, **Valverde A**, Ramond JB, Makhalanyane TP, Jansson J, Hopkins HW, Aspray TJ, Seely M, Trindade MI, Cowan DA. (2016) Temporal dynamics of hot desert microbial communities reveal structural and functional responses to water input. *Sci Rep.* 6: 34434.
49. Oloo F*, **Valverde A***, Quiroga MV, Vikram S, Cowan D, Mataloni G. (2016) Habitat heterogeneity and connectivity shape aquatic microbial communities in South American peatlands. *Sci Rep.* 6: 25712.
*These authors contributed equally to this work
48. **Valverde A**, De Maayer P, Oberholster T, Henschel J, Louw MK, Cowan DA. (2016) Specific microbial communities associate with the rhizosphere of *Welwitschia mirabilis*, a living fossil. *PLoS ONE* 11: e0153353.
47. Makhalanyane TP, **Valverde A**, Gunnigle E, Frossard A, Ramond J-B, Cowan DA. (2015) Microbial ecology of hot desert edaphic systems. *FEMS Microbiol Rev.* 39: 203-221.
46. Quiroga MV*, **Valverde A***, Mataloni G, Cowan DA. (2015) Understanding diversity patterns in bacterioplankton communities from a Sub-Antarctic peatland. *Env Microbiol Rep.* 7: 547-553.
*These authors contributed equally to this work
45. Makhalanyane TP, **Valverde A**, Velazquez D, Gunnigle E, Van Goethem MW, Quesada A, Cowan DA. (2015) Ecology and biogeochemistry of cyanobacteria in soils, permafrost, aquatic and cryptic polar habitats. *Biodiv Conserv.* 24: 819-840.
44. **Valverde A**, Makhalanyane TP, Seely M, Cowan DA. (2015) Cyanobacteria drive community composition and functionality in rock-soil interface communities. *Mol Ecol.* 24: 812-821.
43. **Valverde A**, Makhalanyane TP, Cowan DA. (2014) Contrasting assembly processes in a bacterial metacommunity along a desiccation gradient. *Front Microbiol.* 5: 668.
42. Sanchez-Juanes F, Ferreira L, Alonso P, **Valverde A**, Leon-Barrios M, Rivas R, Mateos PF, Martinez-Molina E, Gonzalez-Buitrago JM, Trujillo ME, Velazquez E. (2013) MALDI-TOF Mass Spectrometry as a tool for differentiation of *Bradyrhizobium* species: application to the identification of *Lupinus* nodulating strains. *Syst Appl Microbiol.* 36: 565-571.
41. Cowan DA, Rybicki E, Tuffin M, **Valverde A**, Wingfield MJ. (2013) Biodiversity: so much more than legs and leaves. *S Afr J Sci.* 109: a0037.
40. Makhalanyane TP, **Valverde A**, Birkeland NK, Cary SG, Tuffin MI, Cowan DA. (2013) Evidence for successional development in Antarctic hypolithic bacterial communities. *ISME Journal.* 7: 2080-2090.
39. Ramos E, Ramirez-Bahena MH, **Valverde A**, Velazquez E, Zuñiga D, Velezmoro C, Peix A. (2013) *Pseudomonas punonensis* sp. nov., isolated from straw. *Int J Syst Evol Microbiol.* 63: 1834-1839.

38. Roychoudhury AN, Cowan DA, Porter D, **Valverde A.** (2013) Dissimilatory sulphate reduction in hypersaline coastal pans: an integrated microbiological and geochemical study. *Geobiology* 11: 224-233.
37. Flores-Felix JD, Carro L, Velazquez E, **Valverde A**, Cerda-Castillo E, Garcia-Fraile P, Rivas R. (2013) *Phyllobacterium endophyticum* sp. nov., isolated from nodules of *Phaseolus vulgaris*. *Int J Syst Evol Microbiol.* 63: 821-826.
36. Makhalanyane TP, **Valverde A**, Lacap DC, Pointing SB, Tuffin MI, Cowan DA. (2013) Evidence of species recruitment and development of hot desert hypolithic communities. *Environ Microbiol Rep.* 5: 219-224.
35. Gokul JK, **Valverde A**, Tuffin M, Cary SC, Cowan DA. (2013) Micro-eukaryotic diversity in hypolithons from Miers Valley, Antarctica. *Biology* 2013: 331-340.
34. Stomeo F*, **Valverde A***, Pointing SB, Tuffin M, Cowan DA. (2013) Hypolithic and soil microbial community assembly along an aridity gradient in the Namib Desert. *Extremophiles* 17: 329-337.
- *These authors contributed equally to this work
33. Stomeo F, Makhalanyane TP, **Valverde A**, Pointing SB, Stevens MI, Cary CS, Tuffin MI, Cowan DA. (2012) Abiotic factors influence microbial diversity in permanently cold soil horizons of a maritime-associated Antarctic Dry Valley. *FEMS Microbiol Ecol.* 82: 326-340.
32. Azziz G, Bajsa N, Haghjou T, Taule C, **Valverde A**, Igual JM, Arias A. (2012) Abundance, diversity and prospecting of culturable phosphate solubilizing bacteria on soils under crop-pasture rotations in a no-tillage regime in Uruguay. *Appl Soil Ecol.* 61: 320-326.
31. Carro-Garcia L, Rivas R, Leon-Barrios M, Gonzalez-Tirante M, Velazquez E, **Valverde A.** (2012) *Herbaspirillum canariense* sp. nov., *Herbaspirillum aurantiacum* sp. nov. and *Herbaspirillum soli* sp. nov., isolated from volcanic mountain soil, and emended description of the genus *Herbaspirillum*. *Int J Syst Evol Microbiol.* 62: 1300-1306.
30. **Valverde A**, Tuffin M, Cowan DA. (2012) Biogeography of bacterial communities in hot springs: a focus on the actinobacteria. *Extremophiles* 16: 669-679.
29. Perez T, Balcazar JL, Peix A, **Valverde A**, Velazquez E, de Blas I, Ruiz-Zarzuola I. (2011) *Lactococcus lactis* subsp. *tractae* subsp. nov., isolated from the intestinal mucus of brown trout (*Salmo trutta*) and rainbow trout (*Oncorhynchus mykiss*). *Int J Syst Evol Microbiol.* 61: 1894-1898.
28. Salazar S, Sanchez LE, Alvarez J, **Valverde A**, Galindo P, Igual JM, Peix A, Santa-Regina I. (2011) Correlation among soil enzyme activities under different forest system management practices. *Ecol Eng.* 37: 1123-1131.
27. **Valverde A**, Gonzalez-Tirante M, Medina-Sierra M, Santa-Regina I, Garcia-Sanchez A, Igual JM. (2011) Diversity and community structure of culturable arsenic-resistant bacteria across a soil arsenic gradient at an abandoned tungsten mining area. *Chemosphere* 85: 129-134.
26. **Valverde A**, Velazquez E, Igual JM, van Berkum P. (2011) Evidence for an American origin of the genes for symbiosis in *Rhizobium lusitanum*. *Appl Environ Microbiol.* 77: 5665-5670.

25. Velazquez E, **Valverde A**, Rivas R, Gomis V, Peix A, Gantois I, Igual JM, Leon-Barrios M, Willems A, Mateos PF, Martinez-Molina E. (2010) Strains nodulating *Lupinus albus* on different continents belong to several new chromosomal and symbiotic lineages within *Bradyrhizobium*. *Antonie van Leeuwenhoek* 97: 363-376.
24. **Valverde A**, Fterich A, Mahdhi M, Ramirez-Bahena MH, Caviedes MA, Mars M, Velazquez E, Rodriguez-Llorente ID. (2010) *Paenibacillus prosopidis* sp. nov., isolated from the nodules of *Prosopis farcta*. *Int J Syst Evol Microbiol.* 60: 2182-2186.
23. Lerner A, **Valverde A**, Castro-Sowinski S, Lerner H, Okon Y, Burdman S. (2010) Phenotypic variation in *Azospirillum brasilense* exposed to starvation. *Environ Microbiol Rep.* 2: 577-586.
22. Lerner A, Castro-Sowinski S, **Valverde A**, Lerner H, Dror R, Okon Y, Burdman S. (2009) The *Azospirillum brasilense* Sp7 noeJ and noeL genes are involved in extracellular polysaccharide biosynthesis. *Microbiology-Sgm* 155: 4058-4068.
21. Delvasto P, Ballester A, Muñoz JA, Gonzalez F, Blazquez ML, Igual JM, **Valverde A**, Garcia-Balboa C. (2009) Mobilization of phosphorus from iron ore by the bacterium *Burkholderia caribensis* FeGL03. *Miner Eng.* 22: 1-9.
20. Alvarez-Martinez ER, **Valverde A**, Ramirez-Bahena MH, Garcia-Fraile P, Tejedor C, Mateos PF, Santillana N, Zuniga D, Peix A, Velazquez E. (2009) The analysis of core and symbiotic genes of rhizobia nodulating *Vicia* from different continents reveals their common phylogenetic origin and suggests the distribution of *Rhizobium leguminosarum* strains together with *Vicia* seeds. *Arch Microbiol.* 191: 659-668.
19. Yishay M, Burdman S, **Valverde A**, Luzzatto T, Ophir R, Yedidia I. (2008) Differential pathogenicity and genetic diversity among *Pectobacterium carotovorum* ssp *carotovorum* isolates from monocot and dicot hosts support early genomic divergence within this taxon. *Environ Microbiol.* 10: 2746-2759.
18. **Valverde A**, Peix A, Rivas R, Velazquez E, Salazar S, Santa-Regina I, Rodriguez-Barrueco C, Igual JM. (2008) *Paenibacillus castaneae* sp nov., isolated from the phyllosphere of *Castanea sativa* Miller. *Int J Syst Evol Microbiol.* 58: 2560-2564.
17. Ramirez-Bahena MH, Garcia-Fraile P, Peix A, **Valverde A**, Rivas R, Igual JM, Mateos PF, Martinez-Molina E, Velazquez E. (2008) Revision of the taxonomic status of the species *Rhizobium leguminosarum* (Frank 1879) Frank 1889(AL), *Rhizobium phaseoli* Dangeard 1926(AL) and *Rhizobium trifolii* Dangeard 1926AL. *R. trifolii* is a later synonym of *R. leguminosarum*. Reclassification of the strain *R. leguminosarum* DSM 30132 (= NCIMB 11478) as *Rhizobium pisi* sp nov. *Int J Syst Evol Microbiol.* 58: 2484-2490.
16. Delvasto P, **Valverde A**, Ballester A, Munoz JA, Gonzalez F, Blazquez ML, Igual JM, Garcia-Balboa C. (2008) Diversity and activity of phosphate bioleaching bacteria from a high-phosphorus iron ore. *Hydrometallurgy* 92: 124-129.
15. **Valverde A**, Hubert T, Stolov A, Dagar A, Kopelowitz J, Burdman S. (2008) Assessment of genetic diversity of *Xanthomonas campestris* pv. *campestris* isolates from Israel by various DNA fingerprinting techniques. *Plant Pathol.* 56: 17-25.

14. Stolov A*, **Valverde A***, Ronald P, Burdman S. (2008) Purification of soluble and active RaxH, a transmembrane histidine protein kinase from *Xanthomonas oryzae* pv. *oryzae* required for AvrXa21 activity. *Mol Plant Pathol.* 8: 93-101.
*These authors contributed equally to this work
13. Peix A*, **Valverde A***, Rivas R, Igual JM, Ramirez-Bahena MH, Mateos PF, Santa-Regina I, Rodriguez-Barrueco C, Martinez-Molina E, Velazquez E. (2007) Reclassification of *Pseudomonas aurantiaca* as a synonym of *Pseudomonas chlororaphis* and proposal of three subspecies, *P. chlororaphis* subsp *chlororaphis* subsp nov., *P. chlororaphis* subsp *aureofaciens* subsp nov., comb. nov and *P. chlororaphis* subsp *aurantiaca* subsp nov., comb. nov. *Int J Syst Evol Microbiol.* 57: 1286-1290.
*These authors contributed equally to this work
12. Velazquez E, Rivas R, del Villar M, **Valverde A**, Peix A, Mateos PF, Martinez-Molina E. (2006) A new approach for separating low-molecular-weight RNA molecules by staircase electrophoresis in non-sequencing gels. *Electrophoresis* 27: 1732-1738.
11. **Valverde A**, Okon Y, Burdman S. (2006) cDNA-AFLP reveals differentially expressed genes related to cell aggregation of *Azospirillum brasilense*. *FEMS Microbiol Lett.* 265: 186-194.
10. **Valverde A**, Igual JM, Peix A, Cervantes E, Velazquez E. (2006) *Rhizobium lusitanum* sp nov. a bacterium that nodulates *Phaseolus vulgaris*. *Int J Syst Evol Microbiol.* 56: 2631-2637
9. **Valverde A**, Delvasto P, Peix A, Velazquez E, Santa-Regina I, Ballester A, Rodriguez-Barrueco C, Garcia-Balboa C, Igual JM. (2006) *Burkholderia ferrariae* sp nov., isolated from an iron ore in Brazil. *Int J Syst Evol Microbiol.* 56: 2421-2425.
8. **Valverde A**, Burgos A, Fiscella T, Rivas R, Velazquez E, Rodriguez-Barrueco C, Cervantes E, Chamber M, Igual JM. (2006) Differential effects of coinoculations with *Pseudomonas jessenii* PS06 (a phosphate-solubilizing bacterium) and *Mesorhizobium ciceri* C-2/2 strains on the growth and seed yield of chickpea under greenhouse and field conditions. *Plant Soil* 287: 43-50.
7. Igual JM, **Valverde A**, Velazquez E, Regina IS, Rodriguez-Barrueco C. (2006) Natural diversity of nodular microsymbionts of *Alnus glutinosa* in the Tormes River basin. *Plant Soil* 280: 373-383
6. Delvasto P, **Valverde A**, Ballester A, Igual JM, Munoz JA, Gonzalez F, Blazquez ML, Garcia C. (2006) Characterization of brushite as a re-crystallization product formed during bacterial solubilization of hydroxyapatite in batch cultures. *Soil Biol Biochem.* 38: 2645-2654.
5. **Valverde A**, Velazquez E, Fernandez-Santos F, Vizcaino N, Rivas R, Mateos PF, Martinez-Molina E, Igual JM, Willems A. (2005) *Phyllobacterium trifolii* sp nov., nodulating *Trifolium* and *Lupinus* in Spanish soils. *Int J Syst Evol Microbiol.* 55: 1985-1989.
4. **Valverde A**, Velazquez E, Gutierrez C, Cervantes E, Ventosa A, Igual JM. (2003) *Herbaspirillum lusitanum* sp nov., a novel nitrogen-fixing bacterium associated with root nodules of *Phaseolus vulgaris*. *Int J Syst Evol Microbiol.* 53: 1979-1983.

3. Igual JM, **Valverde A**, Rivas R, Mateos PF, Rodriguez-Barrueco C, Martinez-Molina E, Cervantes E, Velazquez E. (2003) Genomic fingerprinting of *Frankia* strains by PCR-based techniques. Assessment of a primer based on the sequence of 16S rRNA gene of *Escherichia coli*. *Plant Soil* 254: 115-123.
2. Rivas R, Velazquez E, **Valverde A**, Mateos PF, Martinez-Molina E. (2001) A two primers random amplified polymorphic DNA procedure to obtain polymerase chain reaction fingerprints of bacterial species. *Electrophoresis* 22: 1086-1089.
1. Igual JM, **Valverde A**, Cervantes E, Velazquez E. (2001) Phosphate-solubilizing bacteria as inoculants for agriculture: use of updated molecular techniques in their study. *Agronomie* 21: 561-568.

Book Chapters

7. Igual JM, **Valverde A**. Multivariate analysis in microbial ecology. In preparation.
6. Cowan DA, Adriaenssens E, Pieter De Maayer P, Lebre P, Makhalanyane TP, Ramond J-B, Trindade IM, **Valverde A**, Vikram S (2019) Metagenomics of Extreme Environments: Methods and Applications. *In Advanced Techniques for Studying Microorganisms in Extreme Environments*. Eds. Yergeau E, Ed. De Gruyter, Publ. In Press (ISBN 978-3-11-052578-6)
5. De Maayer P, **Valverde A**, Cowan DA. (2014) The current state of metagenomic analysis. *In Genome Analysis: Current Procedures and Applications*. Ed. Poptsova M. pp. 183-220. ISBN: 978-1908230294
4. **Valverde A**, De Maayer P, Cowan DA. (2014) Microbial community profiling: current approaches and future trends. *In Bioinformatics and data analysis in microbiology*. Eds. Bishop TO, Joubert F. pp. 133-161. ISBN: 978-1908230393
3. Ramírez-Bahena MH, **Valverde A**, Robledo M, Rivera LP, Menéndez E, Medina-Sierra M, Mateos PF, Igual JM, Rivas R. (2013) Nitrogen fixing endosymbiotic bacteria: old chaps and new findings. *In Beneficial plant-microbial interactions: ecology and applications*. Eds. Rodelas Gonzalez MB, Gonzalez-Lopez J. pp. 1-19. ISBN: 9781466587175
2. **Valverde A**, Igual JM. (2011) El género *Frankia*: el otro gran protagonista. *In Fundamentos y aplicaciones agroambientales de las interacciones beneficiosas planta-microorganismo*. Eds. Megías M, Rivilla R, Soto MJ, Delgado MJ, Gonzalez E, Mateos PF, Leon M. pp. 297-312. ISBN: 978-84-614-7364-9
1. Igual JM, **Valverde A**, Peix A, Santa-Regina I, Rodríguez-Barrueco C. (2006) La simbiosis actinorrícica. *In Fijación de nitrógeno: fundamentos y aplicaciones*. Eds.: Bedmar EJ, Gonzalez J, Lluch C, Rodelas B. pp. 232-243. ISBN: 978-84-611-1198-5

CONFERENCE CONTRIBUTIONS

- Cason ED, Gómez A, **Valverde A**. (2019) Riverine microbial communities respond to chronic contamination. *In FEMS 2019 8th Congress of European Microbiologists*. Glasgow, UK. Poster.
- Naidoo Y, Pierneef R, Cason ED, **Valverde A**, Cowan D. (2019) The soil resistome of a natural xeric gradient in the Namib desert. *In FEMS 2019 8th Congress of European Microbiologists*. Glasgow, UK. Oral.

- Moloantoa KM, Maleke MM, Cason E, Vermeulen J, **Valverde A**, van Heerden E, Castillo J. (2018) Isolation and characterization of denitrifying bacteria from open cast mines of South Africa. In *SASM 2018 conference*. Johannesburg, South Africa. Poster.
- Mutseka-Lunga P, Kabwe MH, Kamgan G, Makhalanyane TP, **Valverde A**. (2018) Diversity and distribution of rhizobial populations associated with *Acacia dealbata* in South Africa. In *SASM 2018 conference*. Johannesburg, South Africa. Oral.
- Oberholster T, Cowan D, **Valverde A**. (2017) Deciphering the functional capacity of the sorghum rhizosphere microbiome. In *FEMS 2017 7th Congress of European Microbiologists*. Valencia, Spain. Poster.
- Kamutando CN, Makhalanyane TP, Cowan D, **Valverde A**. (2016) Microbial communities in *acacia dealbata* invaded ecosystems of South Africa. In *SAGS-SASBI meeting*. Durban, South Africa. Oral.
- Oberholster T, Cowan D, **Valverde A**. (2016) The sorghum rhizosphere microbiome under field conditions. In *16th International Symposium on Microbial Ecology*, Montreal, Canada. Poster
- Oberholster T, **Valverde A**, Cowan D. (2016) Root associated microorganisms in crop productivity. In *SASM 2016 conference*. Durban, South Africa. Poster.
- Medina M, **Valverde A**, Díaz-Raviña M, Santa-Regina I, Igual JM. (2015) Microbiological characterization of a semi-arid meadow soil seeded with different proportions of orchard grass and alfalfa. In *XV National meeting of the Spanish society of Nitrogen Fixation*. Leon, Spain. Poster.
- Valverde A**, Makhalanyane TP, Seely M, Cowan DA. (2015) Cyanobacteria drive community composition and functionality in rock-soil interface communities. In *2nd International conference ATEM ii*. Hammamet, Tunisia. Oral.
- Makhalanyane TP, Cowan DA, Seely M and **Valverde A**. (2014) Effects of desert cyanobacterial communities on food web structure. In *15th International Symposium on Microbial Ecology*. Seoul, South Korea. Poster.
- Quiroga MV, **Valverde A**, Cowan DA, Llamas ME, Gonzalez-Garraza G and Mataloni, G. (2014) Study of the bacterioplankton diversity of a feguián peat bog using metagenomic analysis tools. In *VI Congreso Argentino de Limnología*. La Plata, Argentina. Oral.
- Van Goethem MW, Makhalanyane TP, **Valverde A**, Pointing SB, Cowan DA. (2013) The role of moisture sufficiency in Antarctic microbial communities. In *SASM 2013 conference*. Bela-Bela, South Africa. Poster.
- Makhalanyane TP, **Valverde A**, Birkeland NK, Cary SG, Tuffin MI, Cowan DA. (2013) Evidence for successional development of cryptic bacterial communities from Miers Valley, Antarctica. In *XIth SCAR Biology Symposium*. Barcelona, Spain. Oral.
- Du Plessis M, **Valverde A**, Tuffin M, Cowan D. (2012) Microbial diversity of Namib Desert Salt Pans. In *9th International Congress on Extremophiles*. Seville, Spain. Oral.
- Tuffin M, Stomeo F, Makhalanyane T, **Valverde A**, McKay C, Warren-Rhodes K, Lacap D, Pointing S, Cowan D. (2012) Evidence of species recruitment and development of hypolithic communities along and aridity gradient in the Namib Desert. In *9th International Congress on Extremophiles*. Seville, Spain. Poster.

- Valverde A**, Tuffin M, Cowan D. (2011) Community structure of actinobacteria in hot springs from Zambia, Kenya, China and New Zealand. In *South African Society for Microbiology Congress*. Cape Town, South Africa. Oral.
- Cowan DA, Khan N, Makhalanyane TP, **Valverde A**. (2011) Antarctic hypolithic communities: Model systems for a cryptic astrobiological lifestyle. In *62nd International Astronautical Congress*. Cape Town, South Africa. Poster.
- Valverde A**, Gonzalez-Tirante M, Medina-Sierra M, Wackerow-Kouzova ND, Rivas R, Santa-Regina I, Igual JM. (2011) Estudio de las bacterias filoféricas del castaño (*Castanea sativa* Mill.) y su potencial como antagonistas de los agentes causales del chancro y la tinta. In *XXIII Congreso Nacional de Microbiología*. Salamanca, Spain. Poster.
- Valverde A**, Gonzalez-Tirante M, Medina-Sierra M, Garcia-Sánchez A, Santa-Regina I, Igual JM. (2011) Diversidad y estructura de la comunidad de bacterias resistentes al arsénico a través de un gradiente de contaminación del suelo. In *XXIII Congreso Nacional de Microbiología*. Salamanca, Spain. Oral.
- Valverde A**, Velázquez E, Igual JM, van Berkum P. (2010) Evidence for lateral transfer of genes for symbiosis from *R. tropici* IIA to *R. lusitanum* that nodulate *Phaseolus vulgaris* in Portugal. In *9th European Nitrogen Fixation Conference*. Geneva, Switzerland. Poster.
- Valverde A**, Velázquez E, Igual JM. (2010) *Rhizobium tropici* IIA nodulates common bean in Portugal. In *XIII National Meeting of the Spanish Society of Nitrogen Fixation; II Portuguese-Spanish Congress on Nitrogen Fixation*. Zaragoza, Spain. Poster.
- Igual JM, **Valverde A**, Gonzalez-Tirante M, Medina-Sierra M, Santa-Regina I. (2010) Assessment of the bacterial diversity inhabiting *Alnus glutinosa* nodules in the Tormes River basin. In *XIII National Meeting of the Spanish Society of Nitrogen Fixation; II Portuguese-Spanish Congress on Nitrogen Fixation*. Zaragoza, Spain. Oral.
- Rivas R, Garcia-Fraile P, Velázquez E, **Valverde A**, Gomis V, Gantois I, Álvarez-Martínez ER, Peix A, Igual JM, Leon-Barrios M, Willems A, Mateos PF, Martínez-Molina E. (2009) Phylogenetic analysis of ribosomal, housekeeping and symbiotic loci in *Bradyrhizobium* strains nodulating *Lupinus albus* in North Spain. Evidence of a close evolutionary relationship between nodC and housekeeping genes in strains from biovar *genistearum*. In *FEMS Microbiology Congress 2009*. Gothenburg, Sweden. Oral.
- Mandri B, Oufdou K, Faghire M, Bargaz A, Ghoulam C, **Valverde A**, Igual JM, Velázquez E, Peix A. (2009) Genetic diversity of salt-tolerant rhizobial strains nodulating *Phaseolus vulgaris* in Marrakech Tensif-Al Haouz region (Morocco). In *Congrès International Biotechnologie Microbienne au Service du Développement (MICROBIOD)*. Marrakech, Morocco. Poster.
- Garcia-Fraile P, Álvarez-Martínez ER, **Valverde A**, Ramírez-Bahena MH, Tejedor C, Santillana N, Zúñiga D, Peix A. (2009) Rhizobia nodulating *Vicia sativa* and *Vicia faba* in different continents have a common phylogenetic origin and could have been distributed together with *Vicia* seeds. In *FEMS Microbiology Congress 2009*. Gothenburg, Sweden. Poster.
- Díaz CA, Mulas D, Velázquez E, Garcia-Fraile P, **Valverde A**, Gonzalez-Andrés F. (2009) Análisis de la biodiversidad de rizobios que nodulan habichuela (*Phaseolus vulgaris* L.) en la República Dominicana, basado en genes housekeeping. In *XXIV*

Reunión Latinoamericana de Rhizobiología (XXIV RELAR) y I Conferencia Iberoamericana de Interacciones Beneficiosas Microorganismo-Planta-Ambiente. La Habana, Cuba. Poster.

- Valverde A**, Wackerow-Kouzova N, Santa-Regina I, Igual JM. (2008) Presence and diversity of nitrogen-fixing bacteria associated with the phyllosphere of sweet chestnut (*Castanea sativa* Mill.) in the Sierra de Francia mountains (Salamanca, Spain). In *11th International Symposium on Nitrogen Fixation with Non-Legumes*. Ghent, Belgium. Oral.
- Valverde A**, Lerner A, Igual JM, Burdman S, Okon Y. (2008) Formación de biofilms en *Azospirillum brasilense*. In *I congreso Luso-Español de Fijación de Nitrógeno*. Estoril, Portugal. Poster.
- Lerner A, Burdman S, **Valverde A**, Okon Y. (2008) Phase variation in wild type and mutant strains of *Azospirillum brasilense*. In *11th International Symposium on Nitrogen Fixation with Non-Legumes*. Ghent, Belgium. Poster.
- Gallina O, **Valverde A**, Gonzalez-Tirante M, Santa-Regina I, Igual JM. (2008) Aplicación de la técnica DGGE en el estudio de la diversidad de *Frankia*. In *I congreso Luso-Español de Fijación de Nitrógeno*. Estoril, Portugal. Poster.
- Gallina O, **Valverde A**, Gonzalez-Tirante M, Santa-Regina I, Igual JM. (2008) Study on the diversity of *Frankia* from environmental samples by applying DGGE fingerprinting and band sequencing. In *8th European Nitrogen Fixation Conference*. Ghent, Belgium. Oral.
- Valverde A**, Castro-Sowinski S, Lerner A, Fibach S, Matan O, Burdman S, Okon Y. (2007) Exopolysaccharide production and cell aggregation in *Azospirillum brasilense*. In *15th International congress on nitrogen fixation and 12th international conference of the African association for biological nitrogen fixation*. Cape Town, South Africa. Poster.
- Salazar S, Sánchez LE, Igual JM, Peix A, **Valverde A**, Rodríguez-Barrueco C, Galindo P, Santa-Regina I. (2007) Inspección multivariante de la dinámica de parámetros bioquímicos en ecosistemas forestales en la Sierra de Francia (Salamanca, España). In *XI Conferencia española y primer encuentro iberoamericano de biometría*. Salamanca, España. Poster.
- Valverde A**, Hubert T, Stolov A, Dagar A, Kopelowitz J, Burdman S. (2006) A polyphasic approach to assess the genetic diversity among *Xanthomonas campestris* pv. *campestris* strains using PFGE, AFLP, rep-PCR and integron gene cassette PCR. In *The 27th meeting of the Israeli Phytopathological Society*. Bet Dagan, Israel. Poster.
- Ramírez-Bahena MH, **Valverde A**, Igual JM, Martínez-Molina E, Mateos PF, Velázquez E. (2006) Genetic study of rhizobial strains nodulating clover in Northwest Spain. In *11th International Symposium on Microbial Ecology-ISME-11*. Vienna, Austria. Poster.
- Peix A, **Valverde A**, Delvasto P, Velázquez E, Ballester A, Santa-Regina I, Rodríguez-Barrueco C, Garcia-Balboa C, Igual JM. (2006) A novel species of *Burkholderia* with strong phosphate-solubilizing activity. In *2nd FEMS Congress of European Microbiologist*. Madrid, Spain. Oral.
- Igual JM, **Valverde A**, Velázquez E, Santa-Regina I, Rodríguez-Barrueco C. (2006) Análisis filogenético de cepas de *Frankia* mediante MLSA (“multilocus sequence analysis”). In *XI Reunión Nacional de Fijación de Nitrógeno*. El Escorial, Spain. Poster.

- Castro-Sowinski S, **Valverde A**, Lerner A, Fibach S, Matan O, Dror R, Jurkevitch E, Burdman S, Okon Y. (2006) Ecology of *Azospirillum brasilense* in the rhizosphere: cell survival and impact on bacterial populations. In *7th European Nitrogen Fixation Conference*. Aarhus, Denmark. Oral.
- Ramírez-Bahena MH, **Valverde A**, Santo F, Fernández-Santos F, Mateos PF, Martínez-Molina E, Velázquez E. (2005) Caracterización de cepas de rizobia aisladas de trébol en suelos de diferentes características edáficas del noroeste de España. In *XX Congreso Nacional de Microbiología. Sociedad Española de Microbiología*. Cáceres, Spain. Poster.
- Igual JM, **Valverde A**, Velázquez E, Santa-Regina I, Rodríguez-Barrueco C. (2005) Evaluación de la biodiversidad de aislados de *Frankia* mediante PCR-RFLP. In *XX Congreso Nacional de Microbiología. Sociedad Española de Microbiología*. Cáceres, Spain. Poster.
- Igual JM, Peix A, **Valverde A**, Salaza rS, Álvarez J, Rodríguez-Barrueco C, Santa-Regina I. (2005) Soil biochemical properties and diversity of culturable phyllosphere bacteria in chestnut and oak forests: three study cases at the Sierra de Francia (Salamanca, Spain). In *International Symposium "Optimization, Productivity and Sustainability of Chestnut Ecosystems in Mediterranean Europe"*. Catania, Italy. Poster.
- Fiscella T, Igual JM, **Valverde A**, Rodríguez-Barrueco C, Doust MA, Barbera AC, Raciti CN. (2005) Effects of plant growth promoting rhizobacteria (*Pseudomonas jessenii* PS06) and vesicular arbuscular mycorrhizal fungi (*Glomus intraradices*) on growth and nutrient uptake of durum wheat (Mongibello) under greenhouse conditions. In *8th National Biotechnology Congress*. Siena, Italy. Poster.
- Burdman S, Lee SW, Stolov A, Han SW, Jeong KS, **Valverde A**, Ronald P. (2005) *Xanthomonas oryzae* pv. *oryzae* genes required for elicitation of disease resistance in Xa21-rice. In *12th International Congress on Molecular Plant-Microbe Interactions*. Mérida, Yucatán, México. Poster.
- Valverde A**, Rivas R, Peix A, Cruz-Sánchez JM, Trujillo ME, Igual JM, Cervantes E, Mateos PF, Martínez-Molina E, Velázquez E. (2004) Caracterización de cepas del grupo de inoculación cruzada de *Rhizobium leguminosarum* aisladas de nódulos efectivos de leguminosas del noroeste de España. In *XLIV Reunión Científica de la S.E.E.P.* Salamanca, Spain. Oral.
- Valverde A**, Igual JM, Santa-Regina I, Salazar S, Rodríguez-Barrueco C. (2004) Phyllospheric bacteria isolated from chestnut. In *III International chestnut congress*. Chaves, Portugal. Poster.
- Valverde A**, Igual JM, Santa-Regina I, Rodríguez-Barrueco C, Mateos PF, Martínez-Molina E, Velázquez E. (2004) A new species of *Phyllobacterium* that forms effective nodules in *Trifolium pratense* roots in Spain. In *6th European Nitrogen Fixation Conference*. Toulouse, France. Oral.
- Valverde A**, Igual JM, Rodríguez-Barrueco C, Santa-Regina I, Cervantes E, Velázquez E. (2004) *Rhizobium lusitanum*, una nueva especie de *Rhizobium* aislada de nódulos de *Phaseolus vulgaris*. In *X Reunión Nacional de Fijación de Nitrógeno*. Granada, Spain. Oral.
- Igual JM, **Valverde A**, Santa-Regina I, Velázquez E, Rodríguez-Barrueco C. (2004) Biodiversidad y análisis taxonómico de cepas del actinomiceto *Frankia*. In *X Reunión Nacional de Fijación de Nitrógeno*. Granada, Spain. Poster.

- Igual JM, Salaza rS, Santa-Regina I, **Valverde A**, Peix A, Rodríguez-Barrueco C. (2004) Soil enzyme activities in chestnut forests of the province of Salamanca (Spain) under different conditions of exploitation and management. In *III International chestnut congress*. Chaves, Portugal. Poster.
- Igual JM, Peix A, **Valverde A**, Santa-Regina I, Rodríguez-Barrueco C. (2004) Microorganismos y Nutrición Mineral. In *X Simpósio Ibérico de Nutrição Mineral das Plantas*. Lisboa, Portugal. Poster.
- Valverde A**, Igual JM, Velázquez E, Cervantes E. (2003) Caracterización de cepas de *Rhizobium tropici* aisladas de nódulos de plantas de *Phaseolus vulgaris* crecidas en suelos del Noroeste de Portugal. In *XIX Congreso Nacional de Microbiología*. Santiago de Compostela, Spain. Oral.
- Igual JM, **Valverde A**, Rivas R, Santa-Regina I, Mateos PF, Cervantes E, Martínez-Molina E, Velázquez E, Rodríguez-Barrueco C. (2003) Identificación de cepas de *Frankia* utilizando secuenciación específica de un fragmento del gen ribosómico 16S y perfiles de LMW RNA. In *XIX Congreso Nacional de Microbiología*. Santiago de Compostela, Spain. Poster.
- Valverde A**, Igual JM, Peix A, Rivas R, Mateos PF, Martínez-Molina E, Velázquez E. (2002) Analysis of type strains from *Pseudomonas chlororaphis* and *Pseudomonas aureofaciens* (two P-solubilizers in vitro) by diverse techniques shows that belong to different species. In *First International Meeting on Microbial Phosphate Solubilization*. Salamanca, Spain. Oral.
- Valverde A**, Igual JM, Martínez-Molina E, Mateos PF, Cervantes E, Velázquez E. (2002) *Herbaspirillum lusitanum* una nueva especie aislada de la rizosfera de *Phaseolus vulgaris* en Portugal. In *IX Reunión Nacional de Fijación de Nitrógeno*. Córdoba, Spain. Oral.
- Valverde A**, Igual JM, Cervantes E. (2002) Polyphasic characterization of phosphate-solubilizing bacteria isolated from rhizospheric soils of the northeastern region of Portugal. In *First International Meeting on Microbial Phosphate Solubilization*. Salamanca, Spain. Poster.
- Igual JM, **Valverde A**, Rivas R, Martínez-Molina E, Mateos PF, Cervantes E, Rodríguez-Barrueco C, Velázquez E. (2002) Análisis de los perfiles de TP-RAPD de cepas de *Frankia* aisladas a partir de hospedadores de diferentes grupos de inoculación cruzada. In *IX Reunión Nacional de Fijación de Nitrógeno*. Córdoba, Spain. Poster.
- Burgos T, **Valverde A**, Cervantes E, Chamber M, Igual JM. (2002) Growth and yield promotion of chickpea by *Pseudomonas jessenii* PS06, an efficient phosphate-solubilizing bacteria. In *First International Meeting on Microbial Phosphate Solubilization*. Salamanca, Spain. Poster.
- Igual JM, **Valverde A**, Rivas R, Martínez-Molina E, Mateos PF, Cervantes E, Rodríguez-Barrueco C, Velázquez E. (2001) Genomic fingerprinting of *Frankia* strains by PCR-based techniques using primers with increasing GC contents. In *12th International Meeting on Frankia and Actinorhizal Plants*. Carry-Le-Rouet, France. Oral.
- Igual JM, Velázquez E, Mateos PF, **Valverde A**, Rodríguez-Barrueco C, Cervantes E, Martínez-Molina E. (2000) Cellulase patterns in *Frankia* strains belonging to different cross-inoculation groups. In *4th European Nitrogen Fixation Conference*. Seville, Spain. Poster.

Igual JM, **Valverde A**, Cervantes E. (2000) Biodiversity and molecular characterization of ectorhizospheric P-solubilizing bacteria. In *Mediterranean Conference of Rhizobiology*. Montpellier, France. Oral.