

A. PERSONAL DATA

Name and Surname	M. Carmen Ruiz Roldán
Born	18-01-1970
Orcid No.	orcid.org/0000-0003-3427-2998

A.1. Present position

Organism	University of Córdoba		
Dpt./Center	Department of Genetics/Faculty of Sciences		
Address	Edif. C5, 1 ^a planta, Campus de Rabanales, 14071 Córdoba		
Phone No.	+34 957218981	e-mail	ge2rurom@uco.es
Professional category	Associate Professor	Since	1-02-2019
Keywords	<i>Fusarium</i> , virulence, filamentous fungi, pathogenesis		

A.2. Academic degrees

Degree	University	Year
PhD in Biology	Córdoba, Spain	1998
Bachelor's degree in Biology	Córdoba, Spain	1993

B. SUMMARY OF SCIENTIFIC PRODUCTION AND IMPACT**B.1. Quality indexes**

Director of PhD thesis in the last 10 years: 4

Director of Degree and Master thesis in the last 10 years: 7

Total citations: 1149

Publications: 27

h-Index: 14

Book chapters: 4

B.2. Scientific and Professional activities

2016-2019	Assistant Professor	Dpt. Genetics, Univ. Córdoba, Spain
2010-2016	Senior Researcher (Ramón y Cajal)	Dpt. Genetics, Univ. Córdoba, Spain
2006-2010	Postdoctoral Researcher	Dpt. Genetics, Univ. Córdoba, Spain
2001-2006	Professor	Univ. SEK, Segovia, Spain
1998-2001	Postdoctoral Researcher	Inst. Allg. Bot., Univ. Hamburg, Germany
1994-1998	Predocctoral Researcher	Dpt. Genetics, Univ. Córdoba, Spain
1993-1998	Honor Collaborator	Dpt. Genetics, Univ. Córdoba, Spain

- Main research lines: Molecular mechanisms of pathogenicity in *Fusarium oxysporum*, cell-wall degrading enzymes and regulatory proteins, fungal cell-wall biogenesis, transcription factors regulating virulence factors, nuclear dynamics.

-Participation in numerous research projects: funded by the Spanish Ministry of Science and the European Union.

B.3. Complete list of publications

1.- Geiser DM, et al. (2020) Phylogenomic analysis of a 55.1 kb 19-gene dataset resolves a monophyletic *Fusarium* that includes the *Fusarium solani* Species Complex
Phytopathology. doi: 10.1094/PHYTO-08-20-0330-LE.

2.- O'Donnell K, Al-Hatmi AMS, Aoki T, Brankovics B, Cano-Lira JF, Coleman JJ, de Hoog GS, Di Pietro A, Frandsen RJN, Geiser DM, Gibas CFC, Guarro J, Kim H-S, Kistler HC,

Laraba I, Leslie JF, López-Berges MS, Lysøe E, Meis JF, Monod M, Proctor RH, Rep M, **Ruiz-Roldán C**, Šišić A, Stajich JE, Steenkamp ET, Summerell BA, van der Lee TAJ, van Diepeningen AD, Verweij PE, Waalwijk C, Ward TJ, Wickes BL, Wiederhold NP, Wingfield MJ, Zhang N, Zhang SX. (2020) No to *Neocosmospora*: phylogenomic and practical reasons for continued inclusion of the *Fusarium solani* species complex in the genus *Fusarium*. *mSphere* 5:e00810-20.

3.- Nunez-Rodriguez JC, **Ruiz-Roldán C**, Lemos P, Membrives S, Hera C. (2020) The phosphatase Ptc6 is involved in virulence and MAPK signalling in *Fusarium oxysporum*. *Molecular Plant Pathology*, 21: 206–217

4.- Lemos P, **Ruiz-Roldán C**, Hera C. (2018) Role of the phosphatase Ptc1 in stress responses mediated by CWI and HOG pathways in *Fusarium oxysporum*. *Fungal Genetics and Biology*, 118: 10-20

5.- Herrera R, Salazar A, Ramos-Moreno L, **Ruiz-Roldán C**, Ramos J. (2017) Vacuolar control of subcellular cation distribution is a key parameter in the adaptation of *Debaryomyces hansenii* to high salt concentrations. *Fungal Genetics and Biology*, 100: 52-60

6.- Klionsky D.J., et al. (2016) Guidelines for the use and interpretation of assays for monitoring autophagy (3rd edition). *Autophagy*, 12:1-222

7.- López-Fernández L, Roncero, MIG, Prieto A, **Ruiz-Roldán C**. (2015) Comparative proteomic analyses reveal that Gnt2-mediated N-glycosylation affects cell wall glycans and protein content in *Fusarium oxysporum f.sp. lycopersici*. *Journal of proteomics*, 128:189-202

8.- **Ruiz-Roldán C**, Pareja-Jaime Y, González-Reyes JA, Roncero MIG. (2015) The transcription factor Con7-1 is a master regulator of morphogenesis and virulence in *Fusarium oxysporum*. *Molecular Plant-Microbe Interactions*, 28:55-68

9.- Corral-Ramos C, Roca MG, Di Pietro A, Roncero MIG, **Ruiz-Roldán C**. (2015) Autophagy contributes to regulation of nuclear dynamics during vegetative growth and hyphal fusion in *Fusarium oxysporum*. *Autophagy*, 11:1-14

10.- López-Fernández L, **Ruiz-Roldán C**, Pareja-Jaime Y, Prieto A, Khraiweh H, Roncero, MIG. (2013) The *Fusarium oxysporum gnt2*, encoding a putative N-acetylglucosamine transferase, is involved in cell wall architecture and virulence. *PLoS ONE* 8(12): e84690. doi:10.1371/journal.pone.0084690

11.- Bravo-Ruiz G, **Ruiz-Roldán MC**, Roncero MIG. (2013) Lipolytic system of the tomato pathogen *Fusarium oxysporum f.sp. lycopersici*. *Molecular Plant-Microbe Interactions* 26:1054-1067

12.- Di Pietro A, **Ruiz-Roldán MC**. (2012) Host-pathogen interactions. In: *Fusarium wilts of greenhouse vegetable and ornamental crops*. (APS PRESS) ISBN 978-0-89054-401-3

13.- **Ruiz-Roldán MC**, Köhli M, Roncero MIG, Phillipsen P, Di Pietro A, Espeso E. (2010) Nuclear dynamics during germination, conidiation and hyphal fusion of *Fusarium oxysporum*. *Eukaryotic Cell* 9:1216–1224

14.- Pareja-Jaime J, Martín-Urdíroz M, Roncero MIG, González-Reyes JA, **Ruiz-Roldán MC**. (2010) Chitin synthase deficient mutant of *Fusarium oxysporum* elicits tomato plant defence response and protects against wild type infection. *Molecular Plant Pathology* 11:479–493

15.- Ma LJ, H. van der Does C, Borkovich KA, Coleman JJ, Daboussi MJ, Di Pietro A, Dufresne M, Freitag M, Grabherr M, Henrissat B, Houterman PM, Kang S, Shim WB, Woloshuk C, Xie X, Xu JR, Antonxiw J, Baker SE, Bluhm BH, Breakspear A, Brown DW,

Butchko RAE, Chapman S, Coulson R, Coutinho PM, Danchin EGJ, Diener A, Gale LR, Gardiner DM, Goff S, Hammond-Kosack KE, Hilburn K, Hua-Van A, Jonkers W, Kazan K, Kodira CD, Koehrsen M, Kumar L, Lee YH, Li L, Manners JM, Miranda-Saavedra D, Mukherjee M, Park G, Park J, Park SY, Proctor RH, Regev A, **Ruiz-Roldán MC**, Sain D, Sakthikumar S, Sykes S, Schwartz DC, Turgeon BG, Wapinski I, Yoder O, Young S, Zeng Q, Zhou S, Galagan J, Cuomo CA, Kistler HC, Rep M. (2010) Comparative genomics reveals mobile pathogenicity chromosomes in *Fusarium oxysporum*. *Nature* 464:367-373

16.- González-Roncero MI, De la Hera C, Di Pietro A, **Ruiz Roldán MC**, Rispail N, Martínez Rocha AL, Córdoba-Cañero D, Martín-Urdíroz M, Prados-Rosales R, Martínez-Aguilera E, Pareja-Jaime Y, Sánchez-López-Berges M, Pérez-Nadales E, De Miguel C, López-Fernández L. Análisis molecular de la patogénesis en *Fusarium oxysporum*. *Biotechnología* pp 36-38 (ISBN: 978-84-691-5270-6)

17.- Di Pietro A, Roncero MIG, **Ruiz-Roldán MC**. (2009) From tools of survival to weapons of destruction: role of cell wall-degrading enzymes in plant infection. *The Mycota V. Plant Relationships* (ed.H.Deising, Springer Verlag) pp181-200 ISBN: 3540874062

18.- Ruiz-Roldán MC, Garre V, Guarro J, Marine M, Roncero MIG (2008) Role of the White collar 1 photoreceptor in carotenogenesis, UV resistance, hydrophobicity and virulence of *Fusarium oxysporum*. *Eukaryotic Cell* 7: 1227-1230

19.- Pareja-Jaime J, Roncero, MIG, **Ruiz-Roldán MC**. (2008) Tomatinase from *Fusarium oxysporum f.sp. lycopersici* is required for full virulence on tomato plants. *Molecular Plant-Microbe Interactions* 21: 728-736

20.- Martínez-Rocha AL, Di Pietro A, **Ruiz-Roldán MC**, Roncero MIG. (2008) Ctf1, a transcriptional activator of cutinase and lipase genes in *Fusarium oxysporum* is dispensable for virulence. *Molecular Plant Pathology* 9: 293-304

21.- Martín-Urdíroz M, Roncero MIG, González-Reyes JA, **Ruiz-Roldán MC**. (2008) ChsVb, a class VII chitin synthase involved in septation, is critical for pathogenicity in *Fusarium oxysporum*. *Eukaryotic Cell* 7: 112-121

22.- Ruiz-Roldán MC, Puerto-Galán L, Roa J, Castro A, Di Pietro A, Roncero MIG, Hera C. (2008) Role of the *Fusarium oxysporum* Sti35 protein in thiamine biosynthesis and stress response. *Fungal Genetics and Biology* 45: 6-16

23.- Gómez-Gómez E, **Ruiz-Roldán MC**, Di Pietro A, Roncero MIG, Hera, C. (2002) Role in pathogenesis of two endo- β -1,4-xylanase genes from the vascular wilt fungus *Fusarium oxysporum*. *Fungal Genetics and Biology* 35: 213-222

24.- García-Maceira FI, Di Pietro A, Huertas-González MD, **Ruiz-Roldán MC**, Roncero MIG. (2001) Molecular characterization of an endopolygalacturonase from *Fusarium oxysporum* expressed during early stages of infection. *Applied and Environmental Microbiology* 67: 2191-2196

25.- Ruiz-Roldán MC, Maier FJ, Schäfer W. (2001) Ptk1, a mitogen-activated protein kinase gene, is required for conidiation, appressorium formation and pathogenicity of *Pyrenophora teres* on barley. *Molecular Plant-Microbe Interactions* 14:116-125

26.- Roncero MIG, Di Pietro A, **Ruiz-Roldán MC**, Huertas-González MD, García-Maceira FI, Meglecz E, Jiménez A, Caracuel Z, Sancho-Zapatero R, Hera C, Gómez-Gómez E, Ruiz-Rubio M, González-Verdejo CI, Páez, MJ (2000) Role of cell-wall degrading enzymes in pathogenicity of *Fusarium oxysporum*. *Revista Iberoamericana de Micología* 17: 47-53

- 27.-** Huertas-González MD, **Ruiz-Roldán MC**, Di Pietro A, Roncero MIG. (1999) Cross protection provides evidence for race-specific avirulence factors in *Fusarium oxysporum*. *Physiological and Molecular Plant Pathology* 54: 63-72
- 28.-** Huertas-González MD, **Ruiz-Roldán MC**, García-Maceira FI, Roncero MIG, Di Pietro A. (1999) Cloning and characterization of *p11* encoding an in planta-secreted pectate lyase of *Fusarium oxysporum*. *Current Genetics* 35: 36-40
- 29.-** **Ruiz-Roldán MC**, Di Pietro A, Huertas-González MD, Roncero MIG. (1999) Two xylanase genes of the vascular wilt pathogen *Fusarium oxysporum f.sp. lycopersici* differentially expressed during infection of tomato plants. *Molecular and General Genetics* 261: 530-536
- 30.-** Di Pietro A, García-Maceira FI, Huertas-González MD, **Ruiz-Roldán MC**, Caracuel Z, Barbieri AS, Roncero MIG. (1998) Endopolygalacturonase PG1 in different formae speciales of *Fusarium oxysporum*. *Applied and Environmental Microbiology* 64: 1967-1971
- 31.-** **Ruiz MC**, Di Pietro A, Roncero MIG. (1997) Purification and characterization of and acidic endo- β -1,4-xylanase from the tomato vascular pathogen *Fusarium oxysporum f.sp. lycopersici*. *FEMS Microbiology Letters* 148: 75- 82