



## CURRICULUM VITAE (CVA)

CV date 28/04/2023

### Part A. PERSONAL INFORMATION

First name	Antonio		
Family name	Di Pietro		
Gender (*)	Male	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail		URL Web: <a href="https://www.uco.es/FusariumLab/">https://www.uco.es/FusariumLab/</a>	
Open Research and Contributor ID (ORCID)(*)		<a href="https://orcid.org/0000-0001-5930-5763">orcid.org/0000-0001-5930-5763</a>	

### A.1. Current position

Position	Full Professor (Catedrático)		
Initial date	11/06/2011		
Institution	Universidad de Córdoba		
Department/Center	Departamento de Genética, Facultad de Ciencias		
Country	Spain	Teleph. number	
Key words	biocontrol, evolution, fungi, host adaptation, plant, signaling, virulence		

### A.2. Previous positions (research activity interruptions, art. 45.2.c)

Period	Position/Institution/Country/Interruption cause
2007-2011	Associate Professor (Titular), Departamento de Genética, Universidad de Córdoba
2005-2007	Assistant Professor (Contratado Doctor), Dept. Genética, Univ. de Córdoba
2001-2005	Contrato Ramón y Cajal, Departamento de Genética, Universidad de Córdoba
2000/2001	Visiting scientist (5 months), Novozymes Biotech Inc., Davis, CA, USA
1998-2001	Senior Researcher, Departamento de Genética, Universidad de Córdoba
1994-1998	Postdoc Marie Curie Fellow, Departamento de Genética, Universidad de Córdoba
1992-1994	Postdoc Ministerio de Educación y Ciencia, Dept. Genética, Univ. de Córdoba
1991-1992	Postdoc Swiss National Science Foundation, Cornell University, NY, USA
1987-1990	PhD student, University of Basel/Ciba-Geigy Ltd., Basel, Switzerland
1988	Visiting fellow (4 months) Italian Ministry of Research, University of Bari, Italy
1986-1987	Master student/Teaching assistant, University of Basel, Switzerland

### A.3. Education

PhD, Licensed, Graduate	University/Country	Year
MSc in Biology	University of Basel, Switzerland	1987
PhD in Biology	University of Basel, Switzerland	1990

### Part B. CV SUMMARY (max. 5000 characters, including spaces)

#### 1. Scientific contributions and international leadership

- Head of UCO Fusarium Lab research group (<https://www.uco.es/FusariumLab/>). Internationally recognized leader in fungal pathogen research.
- Coordinator/PI of competitive research grants and networks from EU (FP6, FP7, H2020, ERA-Net), national (MICINN) and regional (Junta de Andalucía) funding bodies.
- Sexenios de investigación: 6 (most recent in 2017).

- Elected Lifetime Fellow of the American Academy of Microbiology (**AAM**)\*, since 2016.  
\**"AAM fellows are elected through a highly selective, annual, peer review process, based on their records of scientific achievement and original contributions that have advanced microbiology. Each elected Fellow has built an exemplary career in basic and applied research, teaching, clinical and public health, industry or government service".*
- Coordinator/Partner of three Marie Curie Research Training (**SIGNALPATH**, **ARIADNE**, **FUNGIBRAIN**), 1 ERA-Net (**TRANSPAT**) and 1 Plant KBBE (**dsRNAguard**) networks.
- Co-initiator of **Fusarium genome initiative** led by Broad Institute MIT/Harvard. Comparative genome sequencing of *Fusarium*. Published in Ma et al. (2010) **Nature** 464: 367-373. >1500 citations.
- Editor of the journal **MBio** (ASM Press), 2017-present.
- Special **Invited Professor** (Oct/Nov 2022), Tokyo University of Agriculture and Technology, Japan.
- External reviewer for European Research Council (**ERC Advanced grants**), 2021
- External expert in selection committees for Professor positions at **Karlsruhe Institute of Technology**, Germany (2022); **University of Lyon**, France, 2021; **University of Lund**, Sweden, 2020.
- External reviewer for **Alexander von Humboldt Professorships** (the most highly-endowed research award in Germany), 2020.
- Member Scientific Committee, **12<sup>th</sup> Internat. Congress of Plant Pathology (ICPP 2023)**, Lyon, F.
- Elected member of the International **Fungal Genetics Policy Committee**, 2015-2022.
- Expert Project Evaluator **H2020-MSCA-ITN-2016**, LIFE Panel, 2016.
- Scientific Co-Chair (one of the two co-chairs), **28<sup>th</sup> Fungal Genetics Conference, Asilomar**, Genetics Society of America, 2015.
- Member of the Selection Panels, Proyectos de I+D, Área Biotecnología; Programas Ramón y Cajal and Juan de la Cierva, **MICINN**.

## 2. International invited research seminars (10 most relevant, last 4 years)

1. RIKEN, Center for Sustainable Resource Science, Yokohama, Japan (presential), Nov 2022.
2. Tokyo University, Komaba Campus, Tokyo, Japan (presential), Oct. 2022.
3. University of California Berkeley, Plant & Microbial Biology, USA (online), Oct. 2022.
4. The Sainsbury Laboratory/John Innes Centre, Norwich UK, (presential), May 2022, Nov. 2018.
5. University of Massachusetts, Amherst, USA (online), March 2022.
6. Wageningen Agricultural University, Phytopathology, Netherlands (online), Oct. 2021.
7. Swiss Federal Institute of Technology (ETH), Zürich, Switzerland, (presential), Dec. 2019.
8. Max-Planck-Institute for Terrestrial Microbiology, Marburg, Germany, (presential), Oct. 2019.
9. University of Neuchâtel, Institute of Biology, Switzerland, (presential), Sept. 2019.
10. Université Paul Sabatier/CNRS, Toulouse, France, (presential), June 2019.

## 3. Technology transfer and innovation

- 1 sexenio de transferencia, 2020.
- Coordinator/Partner in 3 Marie Curie ITNs, 1 ERA-Net and 1 Plant KBBE networks including multinational companies **Bayer CropScience**, **Carlsberg**, **KWS seeds**, 2005-2017.
- PI of Project Contract funded by **Novozymes Biotech Inc.**; 120,000 €, 2001-2002.
- Co-funding Partner of **Canvax Biotech S.L.** (<https://canvaxbiotech.com>), 2000-present.
- Visiting research scientist at **Novozymes Biotech Inc.**, Davis, CA, USA.
- Co-author of 4 patents filed by Cornell Research Foundation.
- PhD Thesis on performed at the headquarters of **Ciba-Geigy** (now **SYNGENTA**) in collaboration with Uni Basel, Switzerland, 1987-1990.

## 4. Training and Mentoring of young researchers:

- 17 PhD Theses directed since 1998 (8 since 2010) + 6 currently ongoing
- **Mentoring of early career scientists:** Rafael Prados-Rosales, now Assistant Prof. at UAM; Nicolas Rispail, now permanent researcher at IAS-CSIC; Elena Pérez-Nadales, now Senior researcher at IMIBIC, Córdoba; Manuel S. López-Berges, now Assistant Prof. at UCO; Katja Schäfer, now Senior researcher at Uni Exeter, UK; Mennat El Ghalid, now Postdoc at Institut Pasteur, Paris; Daniela Nordzieke, now Junior Group Leader at Uni Göttingen, Germany; David Turrà, now Associate Professor at Uni Naples, Italy; Tania Ribeiro Fernandes, now Junior group leader at Uni Porto, Portugal; Amey Redkar, now group leader at National Institute of Biotechnology, Bangalore, India.

## Part C. RELEVANT MERITS

### C.1. Publications (10 most relevant, last 8 years)

- Total publications in Web of Science (Publons): **133**
  - Sum of times cited (Publons): **14.593**; excluding self-citations: **13.955**
  - Average citations per item (Publons): **110**
  - Average citations per year during the last 5 years: **1.614**
  - h Index (Publons): **49**
1. Redkar A, Sabale M, Schudoma C, Zechmann B, Gupta YK, López-Berges MS, Venturini G, Gimenez-Ibanez S, Turrà D, Solano R, **Di Pietro A** (2022) Conserved secreted effectors contribute to endophytic growth and multi-host plant compatibility in a vascular wilt fungus. **Plant Cell** 34:3214-3232. IF=11.3.
  2. Redkar A, Sabale M, Zuccaro A, **Di Pietro A** (2022) Determinants of endophytic and pathogenic lifestyle in root colonizing fungi. **Curr Opin Plant Biol** 67:102226. IF=8.7.
  3. Gámez-Arjona FM, Vitale S, Voxeur A, Dora S, Müller S, Sancho-Andrés G, Montesinos JC, **Di Pietro A**, Sánchez-Rodríguez C (2022) Impairment of the cellulose degradation machinery enhances fungal virulence but limits reproductive fitness. **Sci Adv** 8:eabl9734. IF=14.4.
  4. Redkar A, Gimenez Ibanez S, Sabale M, Zechmann B, Solano R, **Di Pietro A** (2021) *Marchantia polymorpha* model reveals conserved infection mechanisms in the vascular wilt fungal pathogen *Fusarium oxysporum*. **New Phytol** 234:227-241. IF=8.5.
  5. Redkar A, Sabale M, **Di Pietro A** (2021) A 'hydrolase switch' for vascular specialization in plant pathogenic bacteria. **Trends Plant Sci** 26:427-429. IF=11.4.
  6. Palmieri D, Vitale S, Lima G, **Di Pietro A**, Turrà D (2020) A bacterial endophyte exploits chemotropism of a fungal pathogen for plant colonization. **Nat Commun** 11:5264. IF=12.1.
  7. Reinhardt D, Roux C, Corradi N, **Di Pietro A** (2020) Lineage-specific genes and cryptic sex: parallels and differences between arbuscular mycorrhizal fungi and fungal pathogens. **Trends Plant Sci** 26:111-123. IF=11.4.
  8. Vitale S, **Di Pietro A**, Turrà D (2019) Autocrine pheromone signaling regulates community behaviour in a fungal pathogen. **Nat Microbiol** 4:1443-1449. IF=15.5.
  9. Masachis S, Segorbe D, Turrà D, Leon-Ruiz M, Fürst U, El Ghalid M, Leonard G, Richards TA, Felix G, **Di Pietro A** (2016) A fungal pathogen secretes plant alkalinizing peptides to increase infection. **Nat Microbiol** 1:16043. IF= 14.2.
  10. Turrà D, El Ghalid M, Rossi F, **Di Pietro A** (2015) Fungal pathogen uses sex pheromone receptor for chemotropic sensing of host plant signals. **Nature** 527:521-524. IF= 41.5.

### C.2. Congresses (10 most relevant, last 6 years)

1. **Di Pietro A**. Host adaptation in the trans-kingdom pathogen *Fusarium oxysporum*. Invited plenary talk. Gordon Research Conference on *Cellular and Molecular Fungal Biology*, Holderness, USA, 2022.
2. **Di Pietro A**. Conserved secreted effectors for endophytic growth and multi-host compatibility in a vascular wilt fungus. Invited talk. 30<sup>th</sup> Fungal Genetics Conference, Asilomar, CA, USA, 2022.
3. **Di Pietro A**. Transposons drive adaptation in a clonally evolving fungal pathogen. Invited plenary talk. Congress of the Fungal Molecular Biology Society Japan (online), 2021.
4. López-Díaz C, Hazal-Ayhan D, Gómez Gil L, Okeke I, Ma LJ, **Di Pietro A**. Transposons drive adaptive evolution in the fungal pathogen *Fusarium oxysporum*. Selected parallel talk. EMBL Conference: Molecular Mechanisms in Evolution and Ecology, Heidelberg, Germany, 2020.
5. Ribeiro Fernandes T, Mariscal Gómez M, Serrano Salces A, Fernández-Acero T, Turrà D, Molina M, **Di Pietro A**. Understanding the role of pH in the control of MAPK signaling. Invited parallel talk. 29<sup>th</sup> Fungal Genetics Conference, Asilomar, California, USA, 2019.
6. **Di Pietro A**. Dynamics of host adaptation in fungal pathogens. Invited parallel talk. EMBO at Basel Life Conference, Basel, Switzerland, 2018. <https://www.basellife.org/2019.html>
7. López Díaz C, Ayhan H, Turrà D, Ma LJ, **Di Pietro A**. Understanding host adaptation in *Fusarium oxysporum*. Invited Keynote lecture. 14<sup>th</sup> European Fusarium Seminar, Vienna, Austria, 2018.

8. López Díaz C, Turrà D, Ribeiro Fernandes T, Ayhan H, Vitale S, Ma LJ, **Di Pietro A**. Host adaptation in the cross-kingdom pathogen *Fusarium oxysporum*. Invited plenary talk. 14<sup>th</sup> European Conference on Fungal Genetics, Haifa, Israel, 2018.
9. **Di Pietro A**. Adaptation of fungal pathogens to the plant host. Invited Keynote lecture. 12<sup>th</sup> European Foundation for Plant Pathology Conference, Dunquerque, France, 2017.
10. **Di Pietro A**. Chemotropic sensing in fungal pathogens. Invited plenary talk. Gordon Research Conference on *Cellular and Molecular Fungal Biology*, Holderness, USA, 2016.
11. **Di Pietro A**. Fungal pathogenicity across host kingdoms. Invited plenary talk. Royal Society Discussion Meeting: "*Tackling emerging fungal threats to animal health, food security and ecosystem resilience*", London, UK, 2016.

### C.3. Research projects (10 most relevant, last 10 years)

1. PDC2022-133749-I00. Genomics-assisted directed evolution-based development of microbial biocontrol consortia for the control of plant vascular wilt diseases (EVOBIOCONTROL). **MICINN Proyectos de Prueba de Concepto**. 2022-2024. **143.750 €**. Principal Investigator.
2. TED2021-130262B-I00. Deciphering the molecular dialogue between fungal pathogens and rhizosphere microbes for improved biocontrol (RHIZOTALK). **MICINN Transición Ecológica y Digital**. 2022-2024. **316.250 €**. Principal Investigator.
3. PLEC2021-007777. Evolución dirigida de consorcios microbianos mejorados para el biocontrol de la Fusariosis vascular del Plátano de Canarias (EVOMICROBIA). **MICINN Líneas Estratégicas**. 2021-2023. Total **342.200 €**, **210.000 €** for applicant group. Coordinator and Principal Investigator.
4. P20\_00179. Mecanismos de adaptación celular y genética en el hongo patógeno *Fusarium oxysporum*: nuevas estrategias de control (FUSICONTROL). **Junta de Andalucía Excelencia**. 2021-2023. **100.000 €**. Principal Investigator.
5. PID2019-108045RB-I00. Cellular and genetic plasticity underpinning host adaptation in fungal pathogens (FUNGIPLAST). **MICINN I+D+i**. 2020-2023. **314.600 €**. Principal Investigator.
6. MSCA-IF-2017-797256. Deciphering of root and rhizosphere microbiome to increase host fitness in the *Fusarium oxysporum*-plant interaction (DIRECTION). **H2020 Marie Curie Individual Fellowship grant**. MSCF Fellow: Mugdha Sabale. 2018-2020. **170.122 €**. Host supervisor.
7. MSCA-IF-2016-750669. *Fusarium oxysporum* mediated underpinning of cell type-specific modulation in multiple host interaction (FOUNDATION). **H2020 Marie Curie Individual Fellowship grant**. MSCF Fellow: Amey Redkar. 2018-2020. **170.122 €**. Host supervisor.
8. BIO2016-78923-R. Host-induced genetic pathways that mediate fungal infection. **MINECO I+D+i**. 2017-2020. **350.000 €**. Principal Investigator.
9. FP7-PEOPLE-ITN-607963. Sensing and integration of signals governing cell polarity and tropism in fungi (FUNGIBRAIN). **FP7 Marie Curie Initial Training Network**. 2013-2017. **476.865 €**. Principal Investigator of the Spanish group, Training Coordinator of the Network.
10. FP7-PEOPLE-ITN-237936. Signaling circuitry controlling fungal virulence: identification and characterization of conserved and specific fungal virulence genes as common antifungal targets (ARIADNE). **FP7 Marie Curie Initial Training Network**. 2010-2013. **391.620 €**. Principal Investigator of the Spanish group, Training Coordinator of the Network.

### C.4. Contracts, technological or transfer merits

1. Genes encoding signalling receptors and effectors as novel antifungal targets. Contract funded by: **Novozymes Biotech Inc.**, Davis, CA, U.S.A. 2001-2002. 120,000 €. Principal Investigator.
2. Harman GE, Tronsmo A, Lorito M, **Di Pietro A**, Hayes CK, Scala F, Kubicek CP (2003) US Patent 6,512,166. Combinations of fungal cell wall degrading enzyme and fungal cell membrane affecting compound. Beneficiary: Cornell Research Foundation.
3. Harman GE, Broadway RM, Tronsmo A, Lorito M, Hayes CK, **Di Pietro A** (2001) US Patent 6,251,390. Purified chitinases and use thereof. Beneficiary: Cornell Research Foundation.
4. Harman GE, Lorito M, **Di Pietro A**, Hayes CK (1995) US Patent 5,474,926. N-acetyl-beta-glucosaminidase isolated from *Trichoderma harzianum*. Beneficiary: Cornell Research Foundation.
5. Harman GE, Lorito M, **Di Pietro A**, Hayes CK (1994) US Patent 5,326,561. Antifungal synergistic combination of enzyme fungicide and non-enzymatic fungicide and use thereof. Beneficiary: Cornell Research Foundation.