Part A. Personal Information

DATE	09/07/21

Surname(s)	Francisco Candeira	
Forename	Marta	
Social Security, Passport, ID number	34876521B	
Sex	Female	
Age	39	
Researcher codes	WoS Researcher ID *(*)*	C-9015-2015
	SCOPUS Author ID*(*)*	35085972100
	Open Researcher and Contributor ID (ORCID)	http://orcid.org/0000-0003-4806-2692

(*) At least one of these is mandatory

A.1. Current position

Post/ Professional Category	RyC2019-027834-I; Principal Investigator (RTI-2018-094650-J-I00)	
UNESCO Code	Agricultural Sciences (310000), Plant biochemistry (230292), Molecular biology (241502),	
Key Words	Agriculture, Biological sciences, Food chemistry, Molecular, cellular and genetic biology, Metabolomics	
Name of the University/Institution	Misión Biológica de Galicia (MBG-CSIC)	
	Department/Centre	Plant genetics and breeding
	Full Address	Carballeira 8, Salcedo-Pontevedra
	Email Address	mfrancisco@mbg.csic.es
	Phone Number	986854800
Start date	2013	

A.2. Education *(title, institution, date)*

Year	*University*	*Degree*	*Title*
2004	*University of Vigo*	*First degree*	*Higher Degree in Biology*
2006	*University of A Coruña*	*Master*	*Master of Sciences*
2011	*University of Vigo*	*PhD*	*Doctorate*

A.3. Indicators of Quality in Scientific Production *(See the instructions)*

Scientific papers in JCR-SCI journals: 48 (17 D1, 34 Q1)
Scientific papers in JCR-SCI journals first author/senior author: 17 (10 D1, 15 Q1)
Scientific papers in non-SCI journals: 11; Books and book chapters: 9
Total citations: 1411; average number of citations/year: 180; h-index = 17 (SCOPUS)
Communications in international meetings: 20; Communications in national meetings: 15
Competitive grants as PI: 4 (Marie Curie Actions, Juan de la Cierva, JIN Plan Nacional I+D, Ramón y Cajal)
Competitive grants as co-applicant: 12 (3 founded by the MINECO, 2 by the INIA, 2 by CDTI, 2 by Xunta de Galicia and 3 from USA government).
Teacher of specialized courses: 8 times (78 h).
Supervisor of 1 PhD Student, 2 Master thesis, 1 Final year project and Tutor of 14 Grad Students

Part B. Free Summary of CV *(Max. of 3.500 characters, including spaces)*

My scientific career has focused on investigating the genetics and biochemistry of plant secondary metabolites involved in plant defense. My objective is to understand how plants optimize the use of resources for defensive metabolites production to coordinate development and defense under external changing environmental conditions. My academic

and research life has been spent at different institutions in Europe (Spain, United Kingdom) and the United States. In Spain, concretely in the University of A Coruña, I stared my scientific career carrying out a Master of Sciences in Genetics (2004-2006). Then I obtained an I3P pre-doctoral fellowship for carrying out a doctoral thesis in the in the Group of Genetics, Breeding and Biochemistry of Brassicas at the Department of Plant Genetics in the MBG-CSIC. I completed my pre-doctoral formations working in the CEBAS-CSIC and in the Institute of Food Research in Norwich (UK). After completing my PhD (University of Vigo, 2011) with highest honors and European mention, I was awarded with the international, highly competitive and prestigious Marie Curie Individual Outgoing Fellowship (FP7-PEOPLE-IOF) in the Department of Plant Sciences at the University of California in Davis (2011-2013); and my project "Network QTL mapping" (PIOF-GA-2010-275286) was founded by the European Commission (223.669 €). The IOF implies a returning period to an European institution, thus I also enjoyed a covered return period at MGB-CSIC (2013-2014) were I set up a new line in synergy with the preexistent lines, bringing together complementary skills, knowledge, and resources in order to jointly address ambitious research questions. Thereafter I was awarded with a "Juan de la Cierva-incorporation" contract (JCI-2014-19653) and I got founding for my own being Principal Investigator within the project JIN-RTI2018-094650-J-I00 (169.400 €). Recently, I was awarded with a "Ramon y Cajal" contract (RyC2019-027834-I). Transfer of knowledge to private sector also played an important role in my career including contracts with companies (total budget of 111.476 €). These studies have led to the identification of new connections between plant secondary metabolism and physiological processes of the plant such as growth, production of biomass, induction of defenses or circadian rhythms among others. This knowledge will be used for future implementation of crop management strategies to reduce pest attack in field while increasing yield and quality of food crops. Throughout my whole scientific career, I have shown independence in my research as well as strong leadership, team work, and coordinating skills, collaborating with a broad variety of researchers in different disciplines, and co-organizing one international Symposium. Moreover, I have engaged in student mentoring, I am supervising one PhD Student; I have supervised two Master Theses, one final year project and tutored 14 students for the degrees in Biology and Biotechnology. In addition, I hired a post-doctoral Researcher from University of Carthage (Tunisia) and a Grad-student from Catania University (Italy) under the Erasmus+ Program for scientific exchange. Over all, the published papers as well as featured projects in the framework of international collaborations gave me a high level of independence to support my leadership capacity. Moreover, I gave gained extensive experience in research management and skills of student's supervision.

Part C. Relevant accomplishments

C.1. Publications (most relevant achievements from the last 5 years).

1. **Francisco M**, Rodríguez V.M. 2021. Importance of daily rhythms on Brassicaceae phytochemicals. **2021**. Agronomy 11(4), 639. (**IF = 3.4/Q1** in Agronomy)

2. **Francisco M**, Kliebenstein D.J, Rodríguez V.M, Soengas P, Abilleira R, Cartea E. **2021**. Fine–mapping identifies NAD–ME1 as a candidate underlying a major locus controlling temporal variation in primary and specialized metabolism in Arabidopsis. The Plant Journal. 106: 454-467. (**IF= 6.4/D1** in Plant Sciences)

3. Soengas P, Cartea E, Velasco P, **Francisco M**. **2018**. Brassica glucosinolate rhythmicity in response to light-dark entrainment cycles is cultivar-dependent. Plant Science. doi: 10.1016/j.plantsci.2018.07.009. (**IF: 3.7/Q1** in Plant Sciences)

4. Moreira X, Abdala-Roberts L, Gols R, **M Francisco. 2018.** Plant domestication decreases both constitutive and induced chemical defences by direct selection against defensive traits. Scientific Reports, 8: 12678. doi: 10.1038/s41598-018-31041-0. (**IF: 4.1/Q1** in Multidisciplinary Sciences)

5. Soengas P, Cartea E, Velasco P, **Francisco M**. **2018**. Endogenous circadian rhythms in polyphenolic composition induce changes in antioxidant properties in Brassica cultivars. *Journal of Agricultural and Food Chemistry*. doi: 10.1021/acs.jaf. (**IF: 3.4/ D1** in Agriculture)

6. Kerwin RE, Feusier J, Muok A, Lin C, Larson B, Copeland D, Corwin JA, Rubin M, **Francisco M,** Li B, Joseph B, Weinig C, Kliebenstein DJ. **2017**. Epistatic by environment interactions mmong *Arabidopsis thaliana* glucosinolate genes impact complex traits and fitness in the field. *New Phytologist*. 215: 1249-1263. (**IF: 7.4/D1** in Plant Sciences)

7. **Francisco M**, Ali M, Ferreres F, Moreno DA, Velasco P, Soengas P. **2016**. Organ-specific quantitative genetics and candidate genes of phenylpropanoid metabolism in *Brassica oleracea*. *Frontiers in Plant Science*. 6: Article 1240. (**IF: 4.3/D1** in Plant Sciences)
8. **Francisco M**, Joseph B, Calligan H, Li B, Corwin J, Lin C, Kerwin R, Burow M, Kliebenstein DJ. **2016**. The defense metabolite, Allyl glucosinolate, modulates *Arabidopsis thaliana* biomass dependent upon the endogenous glucosinolate pathway. *Frontiers in Plant Sciences*. 7: Article 774 (**IF: 4.3/D1** in Plant Sciences)
9. **Francisco M**, Soengas P, Velasco P, Bhadauria V, Cartea M.E, Rodríguez V.M. **2016**. Omics approach to identify factors involved in *Brassica* disease resistance. *Current Issues in Molecular Biology*. 19: 31-42. (**IF: 5.7/D1** in Biochemical Research Methods)
10. **Francisco M**, Joseph B, Calligan H, Li B, Corwin J, Lin C, Kerwin R, Burow M, Kliebenstein DJ. **2016**. Genome Wide Association mapping identifies novel genes involved in the regulatory influence of the *Arabidopsis thaliana* defense metabolite, Allyl glucosinolate. *Frontiers in Plant Sciences*. 7: Article 1010. (**IF: 4.3/D1** in Plant Sciences)
11. Burrow M, Atwell S, **Francisco M**, Kerwin RE, Halkier BA, Kliebenstein DJ. **2015**. The glucosinolate biosynthetic gene AOP2 mediates feed-back regulation of jasmonic acid signaling in Arabidopsis. *Molecular Plant*. 8: 1201-12.(**IF: 7.2/D1** in Plant Sciences)

C.2. Research Projects and Grants

C.2.1. Research Projects and Grants as PI:

1. Genetics and biochemistry of plant secondary metabolites involved in plant defense. **PI: Marta Francisco** From 01/05/2021 to 31/05/2026. "Ayuda gastos de investigación RyC2019-027834-I". Ministerio de Ciencia, Innovación y Universidad. **40.000 €**.
2. Regulación circadiana de compuestos defensivos de la planta ante estrés biótico (RTI-2018-094650-J-I00). Plan Nacional I+D. Ministerio de Ciencia, Innovación y Universidad. **PI: Marta Francisco.** From 01/10/2019 to 30/09/22. **169.400 €.**
3. Estudio de la regulación genética de la biosíntesis de metabolitos secundarios por el ritmo circadiano en *Brassicaceae*. Ministerio de Economía y Competitividad "Ayuda para investigadores del programa Juan de la Cierva-incorporación (IJCI-2014-19653)". Ministerio de Ciencia, Innovación y Universidad. **PI: Marta Francisco**. From 01/01/2015 to 31/12/2017. **6.000 €.**
4. Network QTL mapping of circadian clock. Unión Europea. Program FP7-PEOPLE-2010-IOF. Marie Curie Actions—International Outgoing Fellowships (IOF). **PI: Marta Francisco** . From 01/09/2011 to 30/09/2013. **223.669 €.**

C.2.2. Others Research Projects and Grants as participant (most relevant)

1. AGL2015-66256-C2-1-R. MINECO. PI: Elena Cartea and Pilar Soengas. From: 2016 to 2019. 165.000 €.
2. IN607A 2016/13. Xunta de Galicia. GAIN. PI: Elena Cartea. From 2016 to 2019. 240.000 €.
3. NSF DBI 0820580. National Science Fundation, Division of Biological Infrastructure. (UCDavis). PI: Daniel Kliebenstein. From: 2008 to 2013. 1.272.406 €.
4. NSF MCB 1330337. NSF, Division of Molecular and Cellular Bioscience. PI: Daniel J Kliebenstein. (UC Davis). From 2013-to 2017. 1.053.657 €.
5. ITC-20151009 Proyecto CDTI-Consorcio Empresas. PI: Elena Cartea. From 02/07/2015. 690.011,4 €.
6. INNGAL-AGROMARSALUD 2013. EXP 00064360 / ITC-20133014. Proyecto CDTI-Consorcio Empresas Centros de ejecución: PI: Elena Cartea. From: 05/04/2013. 1.541.953 €.
7. AGL2012-35539. PI: Elena Cartea. From 2013 to 2015. 200.000 €.
8. AGL2009-09922. MINECO. Elena Cartea. From 2010-2013. 266.000 €.

C.3. Contracts

1. Contract between the goup of Genetics, Breeding and Biochemistry of Brassicas and A Rosaleira (Biofunciogal 2015) (ITC-20151009). 02/07/2015-30/12/2017. 51.975 €.
2. Contract between the goup of Genetics, Breeding and Biochemistry of Brassicas and Natural Functional Foods, S.L. 2016. 690 €.
3. Contract between the goup of Genetics, Breeding and Biochemistry of Brassicas and A Rosaleira (INNGAL-AGROMARSALUD 2013) (EXP 00064360 / ITC-20133014). 04/2013-P1Y8M. 39.491 €.

4. Contract between the goup of Genetics, Breeding and Biochemistry of Brassicas and Centro de Conservación de la Biodiversidad Agrícola de Tenerife (CCBAT) RF2010-00013. 2010. 20.000 €.

C.4. Patents and other IPR

1. Cartea ME, Velasco P, Padilla G, **Francisco M**. Registro de Variedades Comerciales del Ministerio de Medio Ambiente y Medio Rural y Marino. BOE número 216/2017, pág. 89070 Fecha de inscripción: 8 de septiembre de 2017. Variedad de grelo (Brassica rapa). Nº registro: 20080283. Denominación varietal: "Cimos de Miño"
2. Cartea ME, Velasco P, Padilla G, **Francisco M**. Registro de Variedades Comerciales del Ministerio de Medio Ambiente y Medio Rural y Marino. BOE número 216/2017, pág. 89070 Fecha de inscripción: 8 de septiembre de 2017. Variedad de nabiza (Brassica rapa). Nº registro: 20080284. Denominación varietal: "Ordes"

C.5, C.6, C.7… Other

C.5. Stays in public or private R&D centres

Pre-doctoral: 6 months (CBAS-CSIC, Spain) IFR, UK)
Pre-doctoral: 3 months (Institute of Food Research, UK)
Post-doctoral: 24 months (University of California, Davis, US)

C. 6. Direction of works

1. PhD Thesis: Bases moleculares, fisiológicas y metabólicas de la resistencia a estrés biótico en cultivos de Brásicas. Student: Carmen Vega. Expected date September 2023
2. Master Thesis: Circadian regulation of plant defensive compounds under biotic stress. Student: Doghri, Marowa. Universidad de Lleida/Mediterranean Agronomic Institute of Zaragoza. Date: June 2020
3. Master Thesis: Identification of QTLs related with phenolic compounds content in *Brassica oleracea.* Student: Ali, Mahmoud. Universidad de Lleida/Mediterranean Agronomic Institute of Zaragoza. Date: July 2014
4. Final year project: The defense metabolite, Allyl glucosinolate, modulates *Arabidopsis thaliana* biomass. Student: Lee, Connor. University of California. Date: June 2013

C. 7. Student tutorials

Tutor of 14 Grad Students in Sciences from the University of California, University of Vigo, University of Leon, University of Santiago de Compostela, and from University of Catania from the program Erasmus + (International Student Mobility Traineeships).
Supervisor of post-doctoral Researcher from University of Carthage (Tunisia): Dr. Karima Lahbib (2018).

C.8. Teaching experience

1. Teacher of the Master Universitario en Genómica y Genética. Universidade de Vigo/ Universidade de Santiago de Compostela. Curso 2020/2021. (4h)
2. Teacher of the course: Conservación de un banco de semillas, germinación y métodos de conservación. Years 2015 (12h), 2016 (12h), 2017 (12h), 2018 (12h) and 2019 (12h). CSIC.
3. Teacher of the course: Espectrofotometría y Cromatografía (8h). 2019. CSIC
4. Teacher of the course: Introducción a la Biología Molecular Vegetal (6h). 2016. CSIC.

C. 9. Organization of R&D activities

Organizing Committee 7th ISHS Brassica Symposium. Pontevedra. May 2017
Scientific Commitee XVII Congreso Hispano-Luso de Biología de Plantas. Vigo. July 2021

C. 10. Editorial councils

Editor of the Acta Horticulturae® (ISSN 0567-7572 print and ISSN 2406-6168 electronic)
Editor of Agronomy (ISSN 2073-4395; CODEN: ABSGGL)

C. 11. Peer review and evaluation activities

Usual reviewer for top journals of Plant Sciences, Food Chemistry and Agriculture. Expert Peer-Review for the National Science Center, Poland. (2021) and for the Spanish Agency of Evaluation and Prospective (ANEP) to evaluate of grant proposals (2021).

C. 12. Obtained grants and scholarships

1. Séneca Fundation Grant to facilitate research exchange. Región de Murcia (350 €). 2015
2. Grant of the Spanish government to facilitate research exchange in foreign countries (Institute of Food Research, Norwich, UK) (4.500 €). 2009
3. Grant to facilitate research exchange. Xunta de Galicia (400 €). 2008
4. PhD grant. I3P-CSIC. Consejo Superior de Investigaciones Científicas. 2007-2011