

1. PERSONAL INFORMATION

First name: **M. Teresa**
Family name: **Boquete Seoane**
Date of birth: **15th of October 1985**
Place of birth: **Santiago de Compostela (Spain)**
ORCID ID: **0000-0002-5886-7374**
Researcher ID: **B-7504-2015**
URL Google Scholar profile: **<https://goo.gl/7Nfd7Y>**
h-index: **13**; n° total cites: **678**
Current position: **María Zambrano Postdoctoral fellow within the ECOTOX group, Area of Ecology, Dpt. of Functional Biology, University of Santiago de Compostela (USC), since January 2022.**
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2. EDUCATION

2015. PhD Thesis. *“A critical evaluation of the use of the moss technique to monitor air pollution”* Final qualification: **Outstanding Cum Laude. University of Santiago de Compostela (USC), Spain.**
2010. Diploma of Advanced Studies. *“Analysis of the temporal variability of the concentrations of some elements in the terrestrial moss Pseudoscleropodium purum”* Final qualification: **Outstanding. University of Santiago de Compostela (USC), Spain.**
2008. Degree in Biology (Specialized in Environmental Biology). **University of Santiago de Compostela (USC), Spain.**

3. SUMMARY

I am a plant biologist with a focus in non-vascular plants (bryophytes). I obtained my bachelor's degree in Biology in 2008 at the Universidad de Santiago de Compostela (USC) where I also completed my Ph.D. between 2010-2015.

Pre-Doctoral research focus:

My Ph.D. focused on the evaluation of the use of the passive moss biomonitoring technique to assess atmospheric heavy metal deposition. By means of several field and laboratory experiments, I was able to identify major limitations to the use of this technique and to propose several measures to overcome and/or minimize such limitations. This work culminated in eight scientific publications in highly ranked international indexed journals.

Funding: I was awarded a grant from Xunta de Galicia (Oct-2008 to Sept-2009), and a grant from the Spanish Ministry (FPU fellowship: Oct-2009 to Sept-2013) in order to conduct my Doctoral Thesis.

Pre-Doctoral stays abroad:

I conducted two pre-doctoral stays under the supervision of recognized international researchers in the field of bryology thanks to funding from two competitive grants to perform short stays abroad from the Spanish Ministry (within the FPU program) and the Fundación Barrié de la Maza. I spent 3 months in 2012 in the Department of Biología Vegetale of the Università degli Study di Napoli

(Naples, Italy), and 4 months in 2014 in the Department of Biology at Duke University (North Carolina, USA), where I was trained in the use of molecular markers to perform population genetic studies, and studied spatial variation of moss reproductive traits respectively. These collaborations resulted in the publication of two articles in highly ranked international journals.

In parallel to the development of my Doctoral thesis, I actively participated (doing field and laboratory work) in the accomplishment of 4 national and European competitive research projects.

As a Ph.D. student, I developed a **strong interest in the reproductive biology of bryophytes as well as in their capacity to respond to environmental challenge.** Bryophytes are fascinating, although understudied plants able to withstand the harsher environmental conditions, and with a great value from an ecological and evolutionary perspective due to their key phylogenetic position between green algae and vascular plants.

Post-doctoral research focus:

I keep the applied research that I initiated during my PhD collaborating with the USC.

However, I completely changed the focus of my research challenging myself to learn last generation molecular tools in order to study plants which is a very important training that could make a difference in the field of bryology for answering taxonomic, ecological, environmental, and evolutionary questions (test hypothesis).

In 2016 I pursued a postdoctoral position that allowed me to use cutting edge molecular tools in order to study the (epi)genetic basis of phenotypic variation for heavy metal accumulation and tolerance in bryophytes. I developed this interdisciplinary research project named BRYOMICS thanks to funding from the Marie Skłodowska Curie Individual Fellowship program (EU MSCA-IF-GF) which allowed me to work as a postdoc between June-2016 and Aug-2018 in the Department of Integrative Biology at the University of South Florida (Florida, USA), between Sept-2018 and Oct-2018 in the Core Facility for Cell Imaging and Ultrastructure Research at the University of Vienna (Vienna, Austria), and nowadays in the Department of Ecology and Evolution of Plant-Animal Interactions at the Estación Biológica de Doñana (EBD-CSIC). I continued this work at EBD-CSIC within the Plant-Animal Interactions group as a Juan de la Cierva postdoctoral fellow in 2020-2021.

Currently, I hold a 3-year position as a María Zambrano postdoctoral fellow to continue my research at the USC within the ECOTOX group.

4. PUBLICATIONS IN INTERNATIONAL INDEXED JOURNALS

	Year	Title	Short URL	Journal	Imp. Fact.	Journal Rank	Quartile
30	2022	Molecular basis of intraspecific differentiation for heavy metal tolerance in the copper moss <i>Scopelophila cataractae</i>	In press	Environ. Exp. Bot.	5.545	20/235	Q1/D1
29	2022	Current and historical factors drive variation of reproductive traits in unisexual mosses in Europe: a case study.	In press	J. Syst. Evol.	4.098	41/235 ³	Q1
28	2022	Genetic and epigenetic differentiation across intertidal gradients in the foundation plant <i>Spartina alterniflora</i>	https://cutt.ly/fHpQPBN	Front. Ecol. Evol.	4.171	38/166 ⁵	Q1
27	2021	Epigenetic effects of parasites and pesticides on captive and wild nestling birds	https://cutt.ly/MbPe3Wi	Ecol. Evol.	2.392	28/51 ⁴ 71/169 ⁵	Q2 Q2
26	2021	Plant epigenetics: phenotypic and functional diversity beyond the DNA sequence	https://cutt.ly/LbPrwDe	Am. J. Bot.	3.038	48/234 ³	Q1/D3
25	2021	Inheritance of methylation differences in the mangrove <i>Rhizophora mangle</i>	https://cutt.ly/SEljeaH	Evol. Dev.	1.925	35/51 ⁴	Q3
24	2021	Analysis of intra-thallus and temporal variability of trace elements and nitrogen in <i>Fucus vesiculosus</i> : sampling protocol optimization for biomonitoring	https://cutt.ly/7k3DXkg	J. Hazard. Mater.	9.038	8/265 ¹	Q1/D1
23	2021	Patterns and mechanisms of heavy metal accumulation and tolerance in two terrestrial moss species with contrasting habitat specialization	https://cutt.ly/Ok3PWLg	Environ. Exp. Bot.	4.027	26/234 ³	Q1/D2
22	2020	Matching times: trying to improve the correlation between heavy metal levels in mosses and bulk deposition	https://cutt.ly/ik3PcF5	Sci. Tot. Environ.	6.551	22/265 ¹	Q1/D1
21	2020	Phenotypic differences in heavy metal accumulation in populations of the brown macroalgae <i>Fucus vesiculosus</i> : a transplantation experiment	https://cutt.ly/pk3Pj2o	Ecol. Ind.	4.229	61/265 ¹	Q1/D2
20	2019	Sampling optimization for biomonitoring metal contamination with marine macroalgae	https://cutt.ly/ck3PoJO	Environ. Poll.	6.793	21/265 ¹	Q1/D1
19	2019	Application of macroalgae analysis to assess the natural variability in selected pollution concentrations (N and Hg), and to detect sources of it in coastal environments	https://goo.gl/uUqeKc	Sci. Tot. Environ.	6.551	22/265 ¹	Q1/D1
18	2018	Biomonitoring coastal environments with transplanted macroalgae: a methodological review	https://goo.gl/HLkxNY	Marine Pollution Bulletin	3.782	5/108 ²	Q1/D1
17	2018	The diversifying field of plant epigenetics	goo.gl/XWKmfr	New Phytologist	7.33	8/228 ³	Q1/D1
16	2017	Do mosses exist out of Europe? A biomonitoring reflection	https://goo.gl/0Onvzk	Sci. Tot. Environ.	4.610	27/242 ¹	Q1/D2
15	2017	Quantification of the overall measurement uncertainty associated with the passive moss biomonitoring technique: sample collection and processing	https://goo.gl/BmFF8H	Environ. Poll.	4.358	40/242 ¹	Q1/D2

¹ Environmental Sciences

² Marine and Freshwater Biology

³ Plant Sciences

⁴ Evolutionary Biology

⁵ Ecology

14	2016	Genetic structuring of the moss <i>Pseudoscleropodium purum</i> sampled at different distances from a pollution source	https://goo.gl/d5IDpQ	Ecotoxicology	1.951	106/229 ¹	Q2
13	2016	Trace element concentrations in the moss <i>Hypnum cupressiforme</i> growing in a presumably unpolluted area	http://goo.gl/LgRi2a	Chemosphere	4.208	32/229 ¹	Q1/D2
12	2016	Significance of the intraspecific morphological variability in biomonitoring studies with mosses: among-populations and between-sexes approach	http://goo.gl/g2VbTv	Environ. Exp. Bot.	4.369	18/212 ³	Q1/D1
11	2016	Best options for the exposure of traditional and innovative moss bags: a systematic evaluation in three European countries	http://goo.gl/IDizKD	Environ. Poll.	5.099	20/229 ¹	Q1/D1
10	2015	Response to comments on “A critical review of protocols for moss biomonitoring of atmospheric deposition: Sampling and sample preparation”	http://goo.gl/ZIeEhn	Sci. Tot. Environ.	3.976	32/223 ¹	Q1/D2
9	2015	Relationship between trace element concentrations in the terrestrial moss <i>Pseudoscleropodium purum</i> and in bulk deposition	http://goo.gl/vnZEXt	Environ. Poll.	4.839	17/223 ¹	Q1/D1
8	2015	A critical review of protocols for moss biomonitoring of atmospheric deposition: Sampling and sample preparation	http://goo.gl/IzDYIL	Sci. Tot. Environ.	3.976	32/223 ¹	Q1/D2
7	2014	Effect of age on heavy metal concentration in segments of <i>Pseudoscleropodium purum</i> and the biomonitoring of atmospheric deposition of metals	http://goo.gl/dWqQtb	Atmos. Environ.	3.281	42/223 ¹	Q1/D2
6	2014	Assessing the effects of heavy metal contamination on the proteome of the moss <i>Pseudoscleropodium purum</i> cross-transplanted between different areas	http://goo.gl/GyVeBo	Env. Sci. Poll. Res.	2.828	54/223 ¹	Q2/D2
5	2013	Assessing the tolerance of the terrestrial moss <i>Pseudoscleropodium purum</i> to high levels of atmospheric heavy metals: A reciprocal transplant study	http://goo.gl/LdJERx	Sci. Tot. Environ.	3.163	40/216 ¹	Q1/D2
4	2011	Are terrestrial mosses good biomonitors of atmospheric deposition of Mn?	http://goo.gl/5WnPLG	Atmos. Environ.	3.465	25/204 ¹	Q1/D2
3	2011	Analysis of temporal variability in the concentrations of some elements in the terrestrial moss <i>Pseudoscleropodium purum</i>	http://goo.gl/YvBuCl	Environ. Exp. Bot.	2.985	33/190 ³	Q1/D2
2	2010	Is it possible to estimate atmospheric deposition of heavy metals by analysis of terrestrial mosses?	http://goo.gl/HWf9q3	Sci. Tot. Environ.	3.190	26/193 ¹	Q1/D2
1	2009	Spatial structure of trace elements in extensive biomonitoring surveys with terrestrial mosses	http://goo.gl/BsFw8C	Sci. Tot. Environ.	2.905	32/179 ¹	Q1/D2

5. BOOK CHAPTERS

Boquete M.T., Wagemaker N.C.A.M., Vergeer P., Mounger J., Richards C.L. (2020). Epigenetic approaches in non-model plants. Chapter 14 in Plant Epigenetics and Epigenomics: Methods and Protocols, 2nd Edition, Eds. Spillane C., McKeown P. ISBN: 978-1-0716-0178-5

Boquete M.T., McNew S.M., Richards C.L. (2022). Applied epigenomics in a rapidly changing world. Chapter D.1 in Applied Environmental Genomics. Eds. Jarman S., Holleley C., Berry O. *In Press*.

6. PUBLICATIONS IN NATIONAL INDEXED JOURNALS

Nº	Year	Title	Short URL	Journal	Imp. Fact.	Journal Rank
1	2017	Empleo de criptógamas como herramienta ecológica de biomonitorización del depósito de nitrógeno en la península ibérica	https://goo.gl/wzAm6M	Ecosistemas		

7. PARTICIPACION IN RESEARCH PROJECTS

9. Title of research activity: BRY"O"MICS: Application of high-sensitive and high-throughput molecular tools to disentangle the mechanisms of heavy metals accumulation and tolerance in mosses: epigenetic and transcriptomic approaches.

Main researcher: M. Teresa Boquete Seoane

From: European Commission

Quantity: 239,191.20€

N° of participant researchers: 1

Lasting: 01/07/2016-25/08/2019

Kind of activity: International Program

Participation: Marie Sklodowska-Curie research fellow

8. Title of research activity: Caracterización de metales pesados y análisis espaciotemporal de su distribución en la Red Autonómica de Biomonitorización de la Contaminación por Metales Pesados de La Rioja.

Main researcher: Javier Martínez-Abaigar

From: Gobierno de La Rioja

Quantity: 32,313€

N° of participant researchers: 10

Lasting: 25/04/2014-15/12/2015

Kind of activity: Contract with a regional government

Participation: researcher

7. Title of research activity: Creating and testing a method for controlling the air quality based in a new biotechnological tool. Use of a devitalized moss clone as passive contaminant sensor

Main researcher: J. Ángel Fernández

From: VII PM-Cooperation

Quantity: 423,117 €

N° of participant researchers: 6

Lasting: 1/04/2012-31/03/2015

Kind of activity: International Program

Participation: researcher

6. Title of research activity: ECOTOX. Consolidación e estruturación de unidades de investigación competitivas 2012

Main researcher: Alejo Carballeira

From: Consellería de Cultura, Educación e Ordenación Universitaria

Quantity: 200,000 €

N° of participant researchers: 18

Lasting: 17/06/2012-31/11/2015

Kind of activity: Regional Plan

Participation: researcher

5. Title of research activity: Biomonitorización de la calidad del aire con musgos terrestres: estandarización y optimización metodológica

Main researcher: J. Ángel Fernández

From: 6 PN-Biología vegetal, animal y ecología

Quantity: 130,680 €

N° of participant researchers: 7

Lasting: 1/01/2012-31/12/2014

Kind of activity: National Plan

Participation: researcher

4. Title of research activity: Caracterización y análisis dentro de la red autonómica de biomonitorización de metales pesados de La Rioja

Main researcher: Javier Martínez-Abaigar

From: Gobierno de La Rioja

Quantity: 30,600 €

N° of participant researchers: 11

Lasting: 31/05/2012-15/12/2013

Kind of activity: Contract with a regional government

Participation: researcher

3. Title of research activity: Biocontrol de flúor 2012. Diversos estudios de valoración en los terrenos próximos a la planta que la empresa tiene en San Cibrao (año 2012) (2012-CE218)

Main researcher: Alejo Carballeira

From: Aluminio Español S.A

Quantity: 13,320 €

N° of participant researchers: 6

Lasting: 13/06/2012-30/12/2012

Kind of activity: Contracts with companies

Participation: researcher

2. Title of research activity: Diseño integral de un briocaptador para o control da calidade da auga dos ríos

Main researcher: Alejo Carballeira

From: Biovía Consultor Ambiental

Quantity: 25,450 €

N° of participant researchers: 8

Lasting: 1/02/2011-30/09/2012

Kind of activity: Contracts with companies

Participation: researcher

1. Title of the research activity: Adecuación del musgo como biomonitor de la calidad del aire ambiente: Efecto del crecimiento, adaptación al medio y relación deposición-bioconcentración

Main researcher: Alejo Carballeira

From: 6 PN-Biología vegetal, animal y ecología

Quantity: 109,868 €

N° of participant researchers: 11

Lasting: 1/09/2009-31/12/2011

Kind of activity: National Plan.

Participation: researcher

8. PARTICIPATION IN CONGRESSES

International Congresses:

13. Heavy Metal Tolerance in Bryophytes: A Transcriptomics Study. Boquete, M.T., Schmid M.W., Wagemaker N.C.A.M., Carey S.B., McDaniel S.F., Richards C.L., Alonso C., Herrera C.M. PAG XXIX. Virtual. 8th-12th January, 2022. **Invited Oral Communication.**

12. Changes in DNA methylation and gene expression in response to copper stress in bryophytes. Boquete, M.T., Alonso C., Richards C.L., Schmid M.W., Herrera C.M. EpiDiv2021 Conference - Linking Ecology, Molecular Biology and Bioinformatics in Plant Epigenetic Research. Sevilla (Spain). **29th September to 1st October of 2021.** Organized by the EpiDiverse European Training Network. **Oral Communication.**

11. **Epigenetic modifications in response to heavy metal stress in two terrestrial bryophytes.** Boquete, M.T., Alonso C., Richards C.L., Schmid M.W., Herrera C.M. Virtual Botany 2020, 27-31 July 2020. Conference organized by the Botanical Society of America (BSA). **Oral Communication.**
10. **Intraspecific variation in heavy metal tolerance in two terrestrial moss species.** Boquete, M.T., Alonso C., McDaniel S.F., Carey S.B., Richards C.L., Lang I., Lichtscheidl I., Weidinger M., Herrera C.M. Madrid (Spain), 9-12 July 2019. Bryology 2019, IAB, iMOSS and SEB joint conference. **Oral Communication.**
9. **Size does matter: morphology, sexual expression and sex ratios in *Pseudoscleropodium purum* across Europe.** Boquete, M.T., Aboal JR, Branquinho C, Calleja J, Chilà A, Cronberg N, Cruz de Carvalho R, Estébanez-Pérez B, Fernández JA, González-Mancebo JM, Leblond S, Martínez-Abaigar J, Medina NG, Núñez-Olivera E, Patiño J, Retuerto R, Vanderpoorten A, Zechmeister HG, Varela Z. Barcelona (Spain), 4-7 February 2019. 1st Meeting of the Iberian Ecological Society and XIV AEET Meeting: Ecology, an integrative science in the Anthropocene. **Poster.**
8. **BRY"O" MICS: Application of high-sensitive and high-throughput molecular tools to disentangle the mechanisms of heavy metals accumulation and tolerance in mosses: epigenetic and transcriptomic approaches.** Boquete, M.T., Alonso C., Richards C.L., Herrera C.M. Saint Petersburg (Florida, USA), 4-6 June 2018. International Molecular Moss Science Society, iMOSS 2018. **Oral Communication.**
7. **BRY"O" MICS: Application of high-sensitive and high-throughput molecular tools to disentangle the mechanisms of heavy metals accumulation and tolerance in mosses: epigenetic and transcriptomic approaches.** Boquete, M.T., Alonso C., Richards C.L., Herrera C.M. Vienna (Austria), 12-15 September 2017. 40th New Phytologist Symposium: Plant epigenetics – from molecular mechanisms to ecological relevance. **Poster.**
6. **Sexual expression and sex ratios in *Pseudoscleropodium purum* (Hedw.) M. Fleish in two different areas of the Iberian Peninsula and Canary Islands.** Boquete, M.T., Fernández J.A., Retuerto R., Martínez-Abaigar J., Núñez-Olivera E., Patiño J., Mera S., González-Mancebo J.M., Vanderpoorten A., Cronberg N., Aboal J.R. Aranjuez (Spain), 20-24 June 2017. XXI Simposio de Botánica Criptogámica. **Oral Communication.**
5. **Spatial variation of life history traits in *Pseudoscleropodium purum* (Hedw.) M. Fleish: a sex expression and sex ratios study.** Boquete, M.T., Aboal J.R., Martínez-Abaigar J., Núñez-Olivera E., Fernández J.A. Madison, Florida (USA), 21-23 October 2016. 43rd South Eastern Population Ecology and Evolutionary Genetics (SEPEEG). **Poster.**
4. **Growth rates and the evolution of heavy metals concentrations in segments of different ages of the terrestrial moss *Pseudoscleropodium purum*.** Boquete, M.T., Aboal J.R., Fernández J.A. and Carballeira A. Las Palmas de Gran Canaria (Spain), 24-28 June 2013. XIX Simposio de Botánica Criptogámica. **Oral Communication.**
3. **Assessment of adaptations to high heavy metal deposition rates by means of cross-transplants of the terrestrial moss *Pseudoscleropodium purum*.** Boquete, M.T., Fernández J.A., Carballeira A. and Aboal J.R. Çesme-Izmir (Turkey), 15-19 October 2012, 6th International Workshop on Biomonitoring of Atmospheric Pollution. **Oral Communication.**
2. **Is it possible to estimate atmospheric deposition of heavy metals by analysis of terrestrial mosses?** Aboal, J.R., Boquete, M.T., Fernández, J.A. and Carballeira A. Tomar (Portugal), 23-26 September 2009, XVII Simposio de Botánica Criptogámica. **Oral communication.**
1. **Analysis of temporal variability in the concentrations of some elements in the terrestrial moss *Pseudoscleropodium purum*.** Boquete, M.T., Aboal, J.R., Fernández, J.A. y Carballeira A. Tomar (Portugal), 23-26 September 2009, XVII Simposio de Botánica Criptogámica. **Poster.**

National Congresses:

3. **Changes in DNA methylation and gene expression in response to Cu-stress in bryophytes.** Boquete, M.T., Alonso C., McDaniel S.F., Carey S.B., Richards C.L., Herrera C.M. Sevilla (Spain), **30 April 2021**. SevinOmics Spring meeting online. **Oral Communication**.
2. **Population differentiation for Cu tolerance in two bryophyte species: phenotypic and transcriptomic analyses.** Boquete, M.T., Alonso C., McDaniel S.F., Carey S.B., Richards C.L., Herrera C.M. Sevilla (Spain), **5-7 February 2020**. SESBE VII, Congreso de la Sociedad Española de Biología Evolutiva. **Oral Communication**.
1. **Life organisms: an environmental monitoring tool.** Noya M., **Boquete M.T.**, Varela Z., Romero J. Santiago de Compostela (A Coruña), **25-27 June 2009**, VI Xornadas Galegas de Educación Ambiental. Poster.

9. SERVICE PROVISION/ORGANIZATION

7. **Review Editor** on the Editorial Board of **Frontiers in Plant Science**, section **Plant Genetics, Epigenetics and Chromosome Biology**. From **June 6th 2022**.
6. **Co-organizer** of the “**The biological meaning of SNPs**” symposium at **ESEB2022** (the European Society for Evolutionary Biology meeting), **14-19 August, 2022**.
5. **Co-organizer** of the **EpiDiverse international conference** "Linking ecology, molecular biology and bioinformatics in plant epigenetics" that will take place in Seville in September 2021.
4. **Co-organizer** of the **SevinOmics Spring Meeting 2021** held online on **April 30th 2021**.
3. Selected **Reviewing Editor** for **Applications in Plant Sciences**, peer-reviewed journal of the Botanical Society of America (BSA). From **September 1st 2020 to August 31st 2022**.
2. **Cash auditor** for the International Molecular Moss Science society (iMOSS). **Fiscal years 2019, 2020, and 2021**.
1. **Co-organizer** of the “**Plant epigenetics: phenotypic and functional diversity beyond the DNA sequence**” symposium at **Virtual Botany 2020**, **27th July 2020**.

10. GRANTS, HONORS and AWARDS

9. **Maria Zambrano Fellowship (2021)**. From: **Spanish Ministry of Science, Innovation and University**. At the University of Santiago de Compostela – USC (Spain). From January 1st 2022 until DEcember 31st 2024. 144,000€.
8. **Juan de la Cierva Incorporación Fellowship (2019)**. From: **Spanish Ministry of Science, Innovation and University**. At the Estación Biológica de Doñana – CSIC (Spain). From February 1st 2020 until January 31st 2023. 93,000€.
7. **Best Postdoctoral Researcher Talk**. International Molecular Moss Science Society, iMOSS (2018).
6. **Marie S. Curie postdoctoral Fellowship (2016)**. From: **European Commission**. To develop the project: “**BRY“O”MICS**. Application of high-sensitive and high-throughput molecular tools to disentangle the mechanisms of heavy metals accumulation and tolerance in mosses: epigenetic and transcriptomic approaches” within the H2020-MSCA-IF-2015, at the University of South Florida (USA) and the Estación Biológica de Doñana – CSIC (Spain). From July 1st 2016 until June 30th 2019. 239,191.20€.
5. **Grant to carry out short predoctoral stays abroad (2013)**. From: **Fundación Barrié de la Maza**. Stay at the Department of Biology, Duke University (North Carolina). From February 1st 2014 until May 31rd 2014. 5,400€.
4. **Grant to carry out short predoctoral stays abroad (2011)**. From: **Spanish Ministry of Education (General Direction of University Policy)**. Stay at the Department of Biología Vegetal de la Facoltà di Scienze Matematiche, Fisiche e Naturali de la Università degli Studi di Napoli Federico II (Italy). From March 15th until June 15th 2012. 4,500€.

3. **Grant for graduate students to train university professors (FPU) (2009).** From: **Spanish Ministry of Education (General Direction of University Policy).** At the University of Santiago de Compostela. From October 1st 2009 until September 30th 2013. 60,252€.
2. **Grant for graduate students to carry out 3rd cycle studies (2008).** From: **Xunta de Galicia (regional government).** At the University of Santiago de Compostela. From October 1st 2008 until September 30th 2009. 7,200€.
1. **Grant to collaborate in departments of the University of Santiago de Compostela (2007).** From: **Xunta de Galicia (regional government).** From September 2007 until July 2008. 3,000€.

11. INVITED TALKS

4. Talk at the **Department Functional Biology, Ecology Section Seminar Series, at the University of Santiago de Compostela** (Santiago de Compostela, Spain). December 13th of 2019.
3. Talk at the **EBD Seminar Series, at the Estación Biológica de Doñana-CSIC** (Sevilla, Spain). June 14th of 2019.
2. Talk at the **Botanicky Seminar, at the Pavol Jozef Safarik University** (Kosice, Slovakia). October 22nd of 2018.
1. Talk at the **Interdisciplinary Seminar series 2018-19, New Concepts in Light and Electron Microscopy, at the University of Vienna** (Vienna, Austria). October 15th of 2018.

12. STAYS ABROAD

4. Use of Scanning Electron Microscopy with Energy Dispersive X-ray (SEM-EDX) analysis to look for differences in the concentrations and localization of Cd and Cu in samples of two terrestrial moss species, as part of the MSCA-IF-GF project BRY“O”MICS. **Developed with Prof. Ingeborg Lang (Core Facility Cell Imaging and Ultrastructure Research, University of Vienna)** from September 3rd until October 31st 2018 as a Postdoc (2 months).
3. Application of next generation sequencing tools (reduced representation bisulfite sequencing, RNA sequencing) to elucidate the molecular mechanisms underlying Cd and Cu accumulation and tolerance in mosses, as part of the MSCA-IF-GF project BRY“O”MICS. **Developed with Prof. Christina Richards (Department of Integrative Biology, University of South Florida)** from July 1st, 2016 to August 25th, 2018 (26 months).
2. Assessment of the accumulation heavy metals and the possible development of tolerance/adaptations to the presence of these pollutants in terrestrial mosses. **Developed with Prof. Jonathan A. Shaw (Department of Biology, Duke University)** from February 1st until May 31th 2014 as a PhD student (4 months).
1. Learning of AFLP technique for molecular characterization of terrestrial bryophytes. **Developed with Prof. Simonetta Giordano (Department of Biología Vegetal de la Facoltà di Scienze Matematiche, Fisiche e Naturali de la Università degli Studi di Napoli Federico II, Italy)** from March 15th until June 15th 2012 as a PhD student (3 months).

13. LANGUAGES

Language	Oral comprehension	Writing comprehension	Oral expression
Spanish	Native	Native	Native
Galician	Native	Native	Native
English	Level B2 (EOI⁴)	Level B2 (EOI)	Level B2 (EOI)

⁴ EOI: Escuela Oficial de Idiomas (Official Language School)

Italian	Level B2 (CILS ⁵)	Level B2 (CILS)	Level B2 (CILS)
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14. TRAINING COURSES RECEIVED

18. **Agencia Estatal Consejo Superior de Investigaciones Científicas** (2021). Title: **Procesado y análisis de imagen digital en microscopía: ImageJ/FIJI**. From: 4-8 October of 2021. Granada, Spain (25h).
17. **Agencia Estatal Consejo Superior de Investigaciones Científicas** (2021). Title: **Métodos comparativos filogenéticos en R**. From: 8-22 June of 2021. Online (45h).
16. **Concello de Santiago de Compostela** (2020-2021). Title: **Creación, programación y diseño de páginas web con HTML5 y CSS3** (“Creation, programming and design of web pages with HTML5 and CSS3”). From 23-11-2020 to 30-01-2021. Online (210h).
15. **Transmitting Science** (2021). Title: **Introduction to Python for Biology – 3rd edition**. From 11-15 January of 2021. Online (35h).
14. **AllGenetics** (2019). Title: **Introduction to genome assembly and annotation**. From 22-24 May of 2019, A Coruña, Spain (16.5h).
13. **ECSeq Bioinformatics** (2018). Title: **DNA methylation data analysis: how to use bisulfite treated sequencing to study DNA methylation Workshop**. From 27-30 November of 2018, Berlin, Germany (32h).
12. **Estación Biológica de Doñana, CSIC** (2018). Title: **Python for Beginners**. From 19-23 November of 2018, Sevilla, Spain (22h).
11. **University of South Florida College of Public Health** (2018). Title: **3rd Genomics Training Course RNA-seq Illumina Sequencing Workshop**. From 7-16 May of 2018, Tampa, Florida (48 hours).
10. **DataCamp** (2017). Title: **Introduction to R**. Online course performed in spring 2017 (40 hours).
9. **University of California Conservation and Genomics Consortium** (2016). Title: **Conservation and Gene Expression Workshop**. From 19-23 September of 2016, Asilomar, California (30 hours).
8. **University of A Coruña** (2015). Title: **Science Xpression**. From 21-25 September of 2015, Santiago and A Coruña (15 hours).
7. **University Rey Juan Carlos** (2015). Title: **Basic Methodologies in Evolutionary Ecology**. From 6-10 July of 2015, Madrid (32 hours).
6. **Barrié de la Maza Foundation** (2012). Title: **GRADSchool competence training program for researchers**. From 12-15 November of 2012, A Coruña (42 hours).
5. **Erudite Institute** (2009). Title: **Environmental Educator**. During the course 2008/2009, Santiago de Compostela (300 hours, 240 theoretical, 60 practical)
4. **Institute of Sciences of Education (USC)** (2009). Title: **Official National Teacher Certificate (C.A.P. “Curso de Aptitud Pedagógica”)**. Santiago de Compostela (164 hours).
3. **Association of Biologists** (2008). Title: **Evaluation of Environmental Impact**. Santiago de Compostela (45 hours).
2. **Health Care Service of the University of Santiago de Compostela** (2008). Title: **First Aid for Emergency Equipment**. Santiago de Compostela (3 hours).
1. **Week of Science at the University of Santiago de Compostela** (2007). Title: **The double impact of Alzheimer: disease and dependency**. Santiago de Compostela (30 hours).

15. SCIENTIFIC OUTREACH ACTIVITIES

⁵ CILS: Certificazione di Italiano come Lingua Straniera dell'Università per Stranieri di Siena

6. Participation in the “**International day for women and girls in science – 11th February**” with an activity at the CEIP Pedro Garfias, Sevilla, 11-February of **2021** (4h).
5. Participation in the **European Researchers Night** organizing an online kahoot quiz for kids entitled: “**Play with epigenetics and learn about plants**” as part of the Estación Biológica de Doñana-CSIC. Sevilla, 27-November of **2020** (1h).
4. Participation in the “**International day for women and girls in science – 11th February**” with a talk at the CEIP Pedro Garfias, Sevilla, 11-February of **2020** (4h).
3. Participation in the **17th Sevilla’s Science Fair organizing a workshop entitled: “El Código de la vida: genética y epigenética”** as part of the Estación Biológica de Doñana-CSIC. Sevilla, 17-May of **2019** (4h).
2. Participation in the **European Researchers Night** organizing a workshop for kids entitled: “**Bryophytes: those little strangers**” as part of the Estación Biológica de Doñana-CSIC. Sevilla, 28-September of **2018** (1h).
1. Participation as guest in the “**Guest Scientist**” activity developed by Karena Nguyen from the Department of Integrative Biology at the University of South Florida, with a **workshop for primary school students entitled “Meet the bryophytes”**. Pizzo Elementary School, Tampa, Florida (USA), 21 of March of **2017** (1h).

16. TEACHING

4. Assistant professor in the Grade in Math **at the University of Santiago de Compostela. As part of the teaching and research staff (PDI) in the Area of Ecology of the Department of Functional Biology during the course 2021/2022** (60 hours).
3. Assistant professor in the Grade in Biology **at the University of Sevilla. As external collaborator in the department of Cellular Biology and Ecology during the courses 2011/2012 and 2012/2013** (20 hours).
2. Assistant professor in the Grade in Biology **at the University of Santiago de Compostela. As part of the teaching and research staff (PDI) in the department of Cellular Biology and Ecology during the courses 2011/2012 and 2012/2013** (120 hours).
1. Participation as a teacher in the “**Summer Scientific Camps**” **organized by the Spanish Ministry of Education, Culture and Sport together with the Spanish Foundation for Science and Technology, in order to introduce high school students into scientific research.** University of Santiago de Compostela, 1-28 of July of 2012 (87.5 hours).

17. MENTORING

Doctoral Thesis:

1. **Student:** Rita García Seoane. **Title of the Project: “Brown algae as heavy metals and nitrogen biomonitors of coastal areas: a review of protocol”.** December 2019, University of Santiago de Compostela. Qualification: **Outstanding Cum Laude.**

Mentoring undergraduate students at the University of South Florida:

2. **Student:** Luiza Simoes. **Title of the project: “BRY“O”MICS. Application of high-sensitive and high-throughput molecular tools to disentangle the mechanisms of heavy metals accumulation and tolerance in mosses: epigenetic and transcriptomic approaches”.** Fall 2017 and Spring 2018, University of South Florida, USA.
1. **Student:** Olivia Santiago. **Title of the project: “BRY“O”MICS. Application of high-sensitive and high-throughput molecular tools to disentangle the mechanisms of heavy metals accumulation and tolerance in mosses: epigenetic and transcriptomic approaches”.** Spring 2018, University of South Florida, USA.

Co-tutoring of undergraduate students in their end of course projects to obtain their degree in Biology at the University of Santiago de Compostela:

8. **Student:** Elena Quintana Pulgarón. **Title of the Project:** “**Creación de una base de datos mundial de los niveles de metales pesados en algas de la clase Phaeophyceae**”. July 2019, University of Santiago de Compostela, Spain.
7. **Student:** María do Carme Pacín Salvador. **Title of the Project:** “**Cinética de carga y descarga de Hg en trasplantes del alga parda *Fucus vesiculosus***”. July 2019, University of Santiago de Compostela, Spain.
6. **Student:** Bieito Rodríguez Fernández. **Title of the Project:** “**Frecuencia da expresión sexual e proporción de sexos do musgo *Pseudoscleropodium purum* (Hedw.) M. Fleisch. En illas da Macaronesia**”. July 2019, University of Santiago de Compostela, Spain.
5. **Student:** Ismael Oliveira Montes. **Title of the project:** “**Sex ratios in the terrestrial moss *Pseudoscleropodium purum* and their relationship with environmental conditions**”. February 2016, University of Santiago de Compostela, Spain.
4. **Student:** Aitor Rodríguez Casanova. **Title of the project:** “**Study of the spatial variability of N concentrations in *Fucus vesiculosus* to its use as a biomonitor**”. Course 2015/2016, University of Santiago de Compostela, Spain.
3. **Student:** Brais Cendán Riveiros. **Title of the Project:** “**Biomonitoring of Hg using *Fucus vesiculosus* in the north coast of Galicia. Determination of natural variability**”. Course 2015/2016, University of Santiago de Compostela, Spain.
2. **Student:** Pablo Rodríguez Rodil. **Title of the Project:** “**Determination of mercury level in marine species of Galician coast, and its possible use as a tool for environmental monitoring of the ecosystem**”. Course 2015/2016, University of Santiago de Compostela, Spain.
1. **Student:** Lidia Ferreras Ferrol. **Title of the project:** “**Study of the spatial variability of Hg in *Fucus vesiculosus* at small scale in the ría de Muros e Noia**”. Course 2015/2016, University of Santiago de Compostela, Spain.

18. ACADEMIC DISTINCTIONS

2015. Positive evaluation for “**Profesor Contratado Doctor**” (Associate Professor) by the **National Agency for Quality Assessment and Accreditation (ANECA), Ministry of Education, Spanish Government** (September 2105).
2015. Positive evaluation for “**Profesor Ayudante Doctor**” (Assistant Professor) by the **National Agency for Quality Assessment and Accreditation (ANECA), Ministry of Education, Spanish Government** (September 2105).
2015. Positive evaluation for “**Profesor de Universidad Privada**” (Lecturer of private University) by the **National Agency for Quality Assessment and Accreditation (ANECA), Ministry of Education, Spanish Government** (September 2105).

19. MEMBERSHIP IN SCIENTIFIC SOCIETIES

Spanish Bryological Society (**SEB**), International Molecular Moss Science Society (**iMOSS**), Spanish Society of Evolutionary Biology (**SESBE**), Botanical Society of America (**BSA**).

20. REVIEWER SERVICE

I have revised several articles for high-quality international indexed journals such as “*Science of the Total Environment*”, “*Atmospheric Environment*”, “*Journal of Hazardous Materials*”, “*Ecological Indicators*”, “*Journal of Bryology*”, “*Atmospheric Research*”, “*PeerJ*”, “*Environmental Pollution*”, “*Environmental Science: Processes and Impacts*”, “*Ecotoxicology*”.

21. UNIVERSITY SERVICE

Representative of non-permanent assistant professors and research trainees **at the board of the Faculty of Biology (University of Santiago de Compostela)**, from 24/05/2013 to 07/2015.

Representative of non-doctor lecturers and research trainees **at the board of the Department of Cellular Biology and Ecology (University of Santiago de Compostela)** from 24/05/2010 to 29/05/2012.

Representative of students **at the board of the Department of Cellular Biology and Ecology (University of Santiago de Compostela)** from 12/05/2008 to 12/05/2009.