

CURRICULUM VITAE

Part A. PERSONAL INFORMATION

CV date

9/12/2025

First name	Virginia		
Family name	Domínguez García		
Gender (*)	Female	Birth date (dd/mm/yyyy)	30/04/1984
Social Security, Passport, ID number	28817507W		
e-mail	domgarvir@gmail.com	Web : ic1.ugr.es/members/virginia	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-4591-4186	

(*) Mandatory

A.1. Current position

Position	Emergia Fellow		
Initial date	01/05/2025		
Institution	Estación Biológica de Doñana - CSIC		
Department/Center	Ecología y Evolución	EBD-CSIC	
Country	Spain	Teleph. number	610651878
Key words	Community ecology; Ecological interactions; Ecological networks; Complex systems; Complex dynamics; Stability		

A.2: Previous professional status (including breaks in research career, according to what is indicated in the call, indicate total months)

Period	Position/Institution/Country/Interruption cause
16/11/2024-30/04/2025	Postdoctoral researcher at EBD-CSIC. (Ecología integrativa). Seville, Spain.
01/10/2022 – 30/09/2024	Postdoctoral Fellow (Marie Curie Postdoctoral Actions) at EBD – CSIC. (Ecología y Evolución). Seville, Spain.
06/10/2021 – 30/09/2022	Postdoctoral researcher at EBD-CSIC. (Ecología integrativa, Dr. Ignacio Bartomeus). Seville, Spain.
10/10/2019 – 31/05/2021	Postdoctoral researcher (UM & CNRS). Institut des Sciences de l'Evolution de Montpellier. (Group: Biodicee, Dr. Sonia Kéfi). Montpellier, France.
15/03/2017 – 20/09/2019	Postdoctoral researcher (UM). Institut des Sciences de l'Evolution de Montpellier. (Group: Biodicee, Dr. Sonia Kéfi). Montpellier, France.
04/02/2016 – 03/02/2017	Postdoctoral fellow and teaching assistant. University of Granada. (Group: Statistical physics and complex systems group, Prof. Miguel. A. Muñoz). Granada, Spain.
01/09/2010 – 23/01/2015	PhD fellow and teaching assistant. Grant: Proyectos de Excelencia de la Junta de Andalucía, from Junta de Andalucía. Code: P09-FQM-4682. (Group: Statistical physics and complex systems group, Advisor: Prof. Miguel. A. Muñoz). University of Granada, Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
BSc, Licenciada en Física	Universidad de Sevilla, Spain	2010
MSc, Máster en Física y Matemáticas	Universidad de Granada, Spain	2011
PhD Physics and Mathematics	Universidad de Granada, Spain	2015

Part B. CV SUMMARY

I am a physicist turned in **community ecologist**. My main goal is to understand how ecological communities respond to the ongoing global change, moving towards a more predictive ecology to improve biodiversity conservation. Starting with a BSc in physics, I continued with an MSc in mathematics and physics, specializing in biomathematics. I obtained my PhD (Suma Cum Laude and International Doctor) in 2015 at Granada University, advised by Prof. Miguel Ángel

Muñoz (P09-FQM-4682, C3.9), in the statistical physics group. I investigated the architecture of biological and ecological networks. In mutualistic communities I found that degree heterogeneity and negative degree-degree correlations can explain the nested structure of empirical networks (**PlosOne 2013**; 134 citations) and proposed a method to maximally pack mutualistic matrices, by ranking species' vulnerability (**Sci. Rep. 2015**; 86c.). Regarding food-webs, I investigated how trophic coherence (well-defined trophic levels) could explain the increased 'lineal stability' of more complex communities (**PNAS 2014**; 212c.) and showed that lack of feedback loops in foodwebs is related to their inherent directionality (**Sci. Rep. 2014**; 25c.). In 2016, I completed a short postdoctoral fellowship in the PIF-III FASE group (C3.8) and demonstrated how trophic coherence and phylogeny can explain the intervality of food-webs (**Chaos 2016**; 11c.). In 2017 I moved to Montpellier as a postdoctoral researcher (ARSENIC, C3.7) to study how complex ecological networks respond to anthropogenic stress, under the supervision of Dr. Sonia Kéfi (Biodicee Team) in the 'Institut des Sciences de L'evolución de Montpellier'. I explored how ecological stability has been quantified and identified the main challenges to do so (**Eco. Lett. 2019**; 294c.). I also quantified the ecological stability of complex food-webs in multiple ways simultaneously, showing the redundancy of some stability metrics (**PNAS 2019**; 137c.). Still in the same team but in a different project (ECONET,3.6) I studied how considering multiple interaction types simultaneously is crucial to determine the real importance of plants for community survival (**Plos Comp. Biol. 2024**; 29c.). In 2021, I moved to Seville to develop a Marie Curie fellowship (PoliS, C3.3) at the world-class Doñana Biological Station (EBD-CSIC), where I used theoretical models to comprehend and forecast stability in pollination communities (**Nat. Eco. Evo 2025**; 22c), and that phenology is fundamental for mutualistic patterns to emerge in plant-pollinator communities (**PRSB 2026**; accepted last December). Building in these results I lead a research line in a national project project (C3.2) and found that the rewiring of the most central pollinator boosts the persistence of pollinators in the field (**Ecol. Lett. 2026**;0c). In May 2025 I started my own research group as an Emergia fellow (C3.1) where I study how competitive and mutualistic empirical communities withstand environmental change, while I apply for more funding to develop my most recent research questions.

I have **co-authored 17 peer-reviewed publications** (9 as 1st, 4 as corresponding, and 1 as last), and a book chapter, accumulating 1034 citations, and an *H*-index of 11. The work that I led is highly innovative (60% published in D1), and 82% of my total production is in Q1 journals. They cover different topics but focus on the use of complex networks to understand ecological systems. My most fruitful area has been ecological stability (1 Nat. Eco. Evo., 2 PNAS and 2 Ecol. Lett., with 763 citations), the core of my research. I like to collaborate in side projects and have now 5 publications derived from it, YR. Zelnik 2023, S. Gamboa et al. 2025, I. Overcast 2025, M. Paniw et al. 2025, C. Terry et al. 2025 (the last 3 still under review). As for **research projects**, I have participated in 11 (three European). The **funding I have obtained** through competitive grants for recruitment and for stays abroad amounts to ca. €650,000, and I have two more in preparation. Regarding my **contributions to society**, it has been mainly to research end-users by publishing my codes (github.com/domgarvir). I also contribute regularly to science outreach events (as Researchers Night or Pint of Science). My **mentoring activities** involve the supervision of 1 BSc, 5 MSc (with one publication in preparation), and 1 JAE intro and 1 Erasmus + (ongoing). Regarding **institutional responsibilities**, I was member of the Student Delegation, and Junta de Facultad during my BSc, member of the Consejo de Departamento during my PhD, and now I am member of the Sustainability Commission at EBD. As for **scientific responsibilities** I have been reviewer in 29 scientific articles, and member of three PhD thesis committees. I am an active member of the Spanish Terrestrial Ecology Association (AEET), where I am part of the equality commission, and the Eco-informatics group. I am also a vocal of the board of the Complex Systems Society of Spain. I have also received a positive evaluation from ANECA as Profesor Contratado Doctor.

Part C. RELEVANT MERITS

C.1. Publications (ten scientific articles) Source: Google-Scholar 2025-12-10.

1. C. Terry, A. Tabi, D. García-Callejas, and V. Domínguez-García. **2025**. Interaction Matrices as Unifying Tools for Navigating Ecological Complexity, *EcoEvoArxiv* (under review in Nat. Eco. Evo.) DOI: <https://doi.org/10.32942/X2V071>
2. **V. Domínguez-García (CA)**, F.P. Molina, A. Allen-Perkins, O. Godoy, and I. Bartomeus. **2025**. Plant-pollinator interaction rewiring boosts year to year community persistence, *Ecology Letters*, *JIF* (2025): **7.9** (Q1). DOI: [10.1111/ele.70293](https://doi.org/10.1111/ele.70293). Citations: 0.
3. **F. Duchenne**, V. Domínguez-García, F.P. Molina, and I. Bartomeus. **2024**. Coevolution of phenological traits shapes plant-pollinator coexistence, *PRSB*, *JIF* (2025): **3.5** (Q1), DOI: [10.1098/rspb.2025.2808](https://doi.org/10.1098/rspb.2025.2808). Citations: 0.
4. **V. Domínguez-García (CA)**, F.P. Molina, O. Godoy, and I. Bartomeus. **2024**. Interaction network structure explains species temporal persistence in empirical plant-pollinator communities, *Nature Ecology and Evolution*, *JIF* (2022): **16.8** (Q1), DOI: [10.1038/s41559-023-02314-3](https://doi.org/10.1038/s41559-023-02314-3). Citations: 22.
5. **V. Domínguez-García (CA)**, and S. Kéfi, 2024. The structure and robustness of ecological networks with two interaction types, *PLOS Computational Biology* 20(1), e1011770 *JIF* (2022): **4.3** (Q1), DOI: [10.1371/journal.pcbi.1011770](https://doi.org/10.1371/journal.pcbi.1011770). Citations: 29.
6. J. Heinen, **V. Domínguez-García**, G. Aguilera, G. Malsher, E. Vesterinen, T. Roslin, R. Bommarco, and I. Bartomeus. **2023**. Diversified cropping strengthens herbivore regulation by providing seasonal resource continuity to predators. *Journal of Applied Ecology* 61(8), 1829–1840 *JIF* (2022): **5.5** (Q1), DOI: [10.1111/1365-2664.14674](https://doi.org/10.1111/1365-2664.14674). Citations: 8.
7. **V. Domínguez-García (CA)**, V. Dakos and S. Kéfi. **2019**. Unveiling dimensions of stability in complex ecological networks. *PNAS* 116(51), 25714–25720. *JIF* (2019): **9.4** (Q1), DOI: [10.1073/pnas.1904470116](https://doi.org/10.1073/pnas.1904470116). Citations: 137.
8. **V. Domínguez-García***, S. Kéfi*, I. Donohue, C. Fontaine, E. Thébaud and V. Dakos. **2019**. Advancing our understanding of ecological stability. *Ecology Letters* 22(9), 1349–1356. *JIF* (2019): **8.7** (Q1), DOI: [10.1111/ele.13340](https://doi.org/10.1111/ele.13340). Citations: 294.
9. **V. Domínguez-García***, S. Jonhson*, L. Donneti and M.A. Muñoz. **2014**. Trophic Coherence Determines Foodweb Stability. *PNAS* 111(50), 17923–17928. *JIF* (2014): **9.7** (Q1), DOI: [10.1073/pnas.1409077111](https://doi.org/10.1073/pnas.1409077111). Citations: 212.
10. S. Jonhson, **V. Domínguez-García** and M.A. Muñoz. **2013**. Factors Determining Nestedness in Complex Networks. *PLoS ONE* 8(9), e74025. *JIF* (2022): **3.5** (Q1), DOI: [10.1371/journal.pone.0074025](https://doi.org/10.1371/journal.pone.0074025). Citations: 134.

C.2. Congress

1. Organizer: **V. Domínguez-García** and **V. Calleja-Solanas**. “IV meeting of the Spanish Chapter of the Complex System Society, CS3”. Sevilla, Spain, 2026.
2. Oral: **V. Domínguez-García** and F.P. Molina and A. Allen-Perkins, and O. Godoy and I. Bartomeus. “Plant-pollinator interaction rewiring boosts year to year community persistence”. XVII Congreso Nacional de la AEET. Pontevedra, Spain, 2025.
3. Organizer: **V. Domínguez-García** and D. García-Callejas. Symposium “When theory meets data”. GFÖ 2024, Freising, Germany, 2024.
4. Oral: **V. Domínguez-García** and F.P. Molina and O. Godoy and I. Bartomeus. “Using ecological networks to understand persistence of empirical Plant-Pollinator communities”. ESA 2024, California, USA, 2024.
5. Oral: **V. Domínguez-García et. Al** (1 of 12). “Visualizando el suelo pegajoso en la investigación en Ecología en España”. XVI Congreso Nacional de la AEET. Almería, Spain, 2023.
6. Oral: **V. Domínguez-García** and F.P. Molina and O. Godoy and I. Bartomeus. “Interaction network structure predicts species temporal persistence in empirical plant-pollinator communities”. XVI Congreso Nacional de la AEET. Almería, Spain, 2023.
7. Invited: **V. Domínguez-García** and S. Kéfi. “The structure and robustness of ecological networks with two interactions”. SFE-GFÖ-EEF joint conference, Metz, France, 2022.
8. Oral: **V. Domínguez-García**, V. Dakos and S. Kéfi. “Dimensions of stability in complex ecological networks”. Complex networks 2019, Lisbon, Portugal, 2019.

9. Invited: **V. Domínguez-García**, V. Dakos and S. Kéfi. “*Measuring the stability of ecological networks*”. GFO Annual Meeting, Münster, Germany, 2019.
10. Invited: **V. Domínguez-García**. “*The hierarchical structure of trophic networks*”. Biomat 2012, Self-organization and collective dynamics in life-sciences, Granada, Spain, 2012.

C.3. Research projects

1. Regional Project. Emergia project EComInAS: Ecological Communities’ Integral Assessment of Stability (275,241€). EBD-CSIC (**PI: V. Domínguez-García**). Funded by Junta de Andalucía (Spain).
2. Research line in national project: PID2021-127607OB-I0-TASTE: Effect of Temporal vAriability of Species inTERactions on the stability and functioning of ecosystems (€165,770). INMAR. **Role:** Member of the research team and leader of Task 3.1. Funded by: Ministerio de Ciencia e Innovación, (PI: O. Godoy).
3. European Project. MSCA Project 101064340-PoliS: comprehensive assessment of stability in pollination communities (€165,312). EBD-CSIC (**PI: V. Domínguez-García**). Funded by: European Research Council. DOI: [10.3030/101064340](https://doi.org/10.3030/101064340).
4. Regional project. Poli-Stability: Understanding the stability of plant-pollinator communities in a changing world (€162,665). EBD-CSIC (**PI: V. Domínguez-García**). Funded by: Junta de Andalucía. Resigned by incompatibility with the MSCA project.
5. International Project. OBServ Open library of pollinator Biodiversity and ecosystem Services scenarios. EBD-CSIC. (PI: I. Bartomeus). **Role:** Contracted researcher and team member. Funded by: Biodiversa Belmont Forum (€850,000).
6. National project. EcoNet ANR-18-CE02-0010-01: Advanced statistical modelling of ecological networks (€578,300). University of Montpellier. (PI: C. Matias). **Role:** Contracted researcher (Equipo de Investigación). Funded by ANR, the French National Research Agency (France).
7. National project: ARSENIC ANR-14-CE02-0012: Adaptation and Resilience of Spatial Ecological Networks to human-Induced Changes (€498,681). University of Montpellier (PI: F. Massol and N. Loeuille). **Role:** Contracted researcher and team member. Funded by ANR, the French National Research Agency (France).
8. Research fellowship: PIF-III FASE Contratación de doctores vinculado a PI de Excelencia 2009. (€43,140). University of Granada (**PI: V. Domínguez-García**). Funded by Junta de Andalucía (Spain).
9. Regional project: P09-FQM-4682 (€266,414): Complex networks and self-organization in ecology, biodiversity and neuro-science. Universidad de Granada (PI: M.Á. Muñoz). **Role:** Contracted researcher and team member. Funded by Junta de Andalucía (Spain).
10. Mobility fellowship (competitive): CEI BioTic Grant for international research stays. (€3,000) 3 months at Bristol University. Funded by University of Granada (**PI: V. Domínguez-García**).

C.4. Contracts, technological or transfer merits

1. Open scientific **software:** V. Domínguez-García. Code for analysing correlations between stability metrics. 2023. [10.5281/zenodo.7805241](https://doi.org/10.5281/zenodo.7805241)
2. Open scientific **software:** V. Domínguez-García. Tripartite: code to measure the structure and robustness of ecological networks with two interaction type. 2023. [10.5281/zenodo.7805179](https://doi.org/10.5281/zenodo.7805179)
3. Open scientific **software:** V. Domínguez-García. Data and code corresponding to article C1.3 2023. [10.5281/zenodo.10083503](https://doi.org/10.5281/zenodo.10083503)
4. **Outreach:** V. Domínguez-García, E. Velado, C. Martínez, M. Hurtado, and I. Bartomeus. Workshop: “Jugando con la biodiversidad”. 2024. [10.5281/zenodo.10535259](https://doi.org/10.5281/zenodo.10535259)
5. Online **course:** V. Domínguez-García. Introduction to network analysis and modelling. 2024 and 2025. [Course](#), [open materials](#) in GitHub and associated online platform in [Binder](#)
6. Online **course:** V. Domínguez-García. Introducción al análisis de datos con Python. 2023. [10.5281/zenodo.7805219](https://doi.org/10.5281/zenodo.7805219).
7. **Course:** D. García-Callejas & V. Domínguez-García. Population dynamics in R. 2022. [GitHub](#)
8. **Course:** I. Bartomeus & V. Domínguez-García. Lotka-Volterra initiation course. 2023. [GitHub](#)
9. **Scientific symposium:** V. Domínguez-García, D. García-Callejas, M. Hurtado & E. Velado-Alonso. Organization of 1st Early Career Researcher meeting of the AEET. El Rocío. 2022.
10. **Teaching activities:** From 2013 to 2016, I taught the courses of 'Statistical Physics' and 'General Physics' as part of the Physics degree programme at the University of Granada.