

Violeta Calleja Solanas, PhD Candidate

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PhD program, Complex Systems

Dec. 2018 - today

- **Institute for Cross-Disciplinary Physics and Complex Systems** (IFISC), University of the Balearic Islands, Spain
 - María de Maeztu Unit of Excellence PhD position
 - Grant for the training of research staff of the Government of the Balearic Islands (FPI-CAIB)
- University of Padova, Italy
 - 3-month research visit under the supervision of Samir Suweis

Sep. - Dec. 2021

Master (MSc), Physics and Physical Technologies

2017 - 2018

- University of Zaragoza, Spain
 - Master Thesis: *High-order versus structured interactions in competitive ecosystems*, Score = outstanding
- Chalmers University of Technology, Sweden (Erasmus scholarship, exchange program between European countries)

Bachelor, Physics

2012 - 2017

- University of Zaragoza, Spain
 - Degree Thesis: *Hardware chaotic cryptography techniques for secure communications*, Score = outstanding
 - Research Fellowships at Aragon Institute of Engineering Research
 - Ordinary scholarship from the Education Department of the Spanish Government to pursue my studies
- University of Florence, Italy (Erasmus scholarship)

Jul. 2015 & Sep. 2016

Memberships and awards

- Best Poster Award at XXIII National Conference of Statistical Physics (FisEs'22)
- Elected member of the **Council of the Complex Systems Society** (2020-2024)
- Elected member of the advisory board of the **Young Researchers of the Complex Systems Society** (2020-2022)
- Winner of the data visualisation contest CCS Warm-Up 2020 (04/12/2020)
- Best Scientific Poster Award, University of Balearic Islands (2019)
- Best Poster Award at International Conference on Complex Networks (2019)

Peer-reviewed publications and manuscripts

1. [Calleja-Solanas, V.](#), Pigani, E., Palazzi, M. J., Solé-Ribalta, A., Suweis, S., Borge-Holthoefer, J., & Meloni, S. (2021). Quantifying the drivers behind collective attention in information ecosystems. *Journal of Physics: Complexity*, 2(4), 045014.
2. Palazzi, M. J., Solé-Ribalta, A., [Calleja-Solanas, V.](#), Meloni, S., Plata, C. A., Suweis, S., & Borge-Holthoefer, J. (2021). An ecological approach to structural flexibility in online communication systems. *Nature communications*, 12(1), 1-11.
3. Plata, C. A., Pigani, E., Azaele, S., [Calleja-Solanas, V.](#), Palazzi, M. J., Solé-Ribalta, A., Borge-Holthoefer, J., Meloni, S. & Suweis, S. (2021). Neutral theory for competing attention in social networks. *Physical Review Research*, 3(1), 013070.
4. [Calleja-Solanas, V.](#), Khalil, N., Hernández-García, E., Gómez-Gardeñes, J., & Meloni, S. (2020). Structured interactions as a stabilizing mechanism for competitive ecosystems. *arXiv preprint arXiv:2012.14916*.
5. [Calleja-Solanas, V.](#), Sáiz, H., Hernández-García, & Meloni, S., Structural predictors for Species Survival in Ecological Networks (*submitted*)
6. [Calleja-Solanas, V.](#), Plata, C. A., Palazzi, M. J., Solé-Ribalta, A., Suweis, S., Borge-Holthoefer, J., & Meloni, S., Universal patterns in information ecosystems (*in preparation*)

Invited talks

1. **Mediterranean Ecological Studies and Synthesis lab**, University of Cadiz, Spain, February 2022, "Complex networks in ecology" (online seminar invited by Dr Oscar Godoy)
2. **CSS Chapters Workshop**, CCS Lyon 2021, "Mission and Initiatives of yrCSS" (round table invited by Dr Bertrand Jouve)

Contributed talks

1. [Calleja-Solanas, V.](#), Sáiz, H., Hernández-García, E. & Meloni, S.
Young Modellers in Ecology workshop 2022 (online)
"Structural Predictors for Species Survival"
2. [Calleja-Solanas, V.](#), Hernández-García, & Meloni, S.
Conference on Complex Systems Lyon (CCS) 2021
"Structural Predictors for Species Survival in Ecological Networks"
3. [Calleja-Solanas, V.](#), Hernández-García, E. & Meloni, S.
ECONET2021: V Symposium on ecological networks
"Structural Predictors for Species Survival in Ecological Networks"

4. [Calleja-Solanas, V.](#), Khalil, N., Hernández-García, E., Gómez-Gardeñes, J., & Meloni, S. **NETSCI 2020** (online)
“Structured interactions in competitive ecological systems”
5. [Calleja-Solanas, V.](#), Hernández-García, E., Gómez-Gardeñes, J., & Meloni, S. **Conference on Complex Systems Singapore 2019**
“High-order vs. structured interactions in competitive ecosystems”
6. [Calleja-Solanas, V.](#), Flavián-Blasco D, Aldea C.
7º Conference for Young Researchers on Physics and Chemistry 2016
“Chaotic circuits simulation and implementation with applications to secure communications”

Contributed posters

1. [Calleja-Solanas, V.](#), Plata, C., Palazzi, M. J., Solé-Ribalta, A., Borge-Holthoefer, J., Suweis, S. & Meloni, S., **XXIII National Conference of Statistical Physics FisEs'22**,
“Macroecological patterns on information ecosystems”
2. Plata, C. A., Pigani, E., Azaele, S., [Calleja-Solanas, V.](#), Palazzi, M. J., Solé-Ribalta, A., Borge-Holthoefer, J., Meloni, S. & Suweis, S., **CCS Lyon 2021**, “Neutral theory for competing attention in social networks”
3. [Calleja-Solanas, V.](#), Gómez-Gardeñes, J., & Meloni, S., **International Conference on Complex Networks** (complanet19), “Structured interactions in competitive ecosystems”
4. [Calleja-Solanas, V.](#), Gómez-Gardeñes, J., & Meloni, S., **XXII National Conference of Statistical Physics FisEs'18**, “High-order vs. structured interactions in competitive ecosystems”

Research workshops and schools

- Santa Fe Institute’s **Complex Systems Summer School** (SFI-CSSS), 12 Jun - 8 Jul 2022, SFI, NM, USA
- 'Fundamental Mathematical Models in Evolution', PhD-training course by Dr Eric Libby, **Umeå University** (online), April - May 2021
- '**Scientific Evolutionary Writing Workshop**', Università di Roma Sapienza (online), 01-04/03/2021
- '**Winter School on Quantitative Systems Biology: Quantitative Approaches in Ecosystem Ecology**', organised by the International Centre for Theoretical Physics (**ICTP**) (online), 30 Nov - 18 Dec 2020
- 'Third Northeast Regional Conference on Complex Systems NERCCS 2020 School' (online), 02/04/2020

Organizing experience

- **Program committee** for Conference on Complex Systems (CCS) Palma 2022
- **Communication & Social Media committee** for CCS Palma 2022

- Organization of CCS Lyon 2021 **Warm-Up School**
- **Organizing and scientific committees** of the Spanish Conference of Statistical Physics for Young Researchers FisEs'Joven 2021

Research, out-research & volunteer activities

- **Peer reviews** in PLOS Computational Biology and Philosophical Transactions A RSTA
- Volunteer at the Museum of Natural Sciences of the University of Zaragoza, Spain (2020-2021)
- Participating researcher at the International Day of Women and Girls in Science (11 February 2018, 2020 and 2021)
- Volunteer for the University of Zaragoza's Classical Orchestra designing some concerts' posters (2018)
- Volunteer at the Educational Museum of Origami of Zaragoza (2017-2018)
- Participant at the VII ed. of the Santander Bank Entrepreneur Program, (Feb. - Apr. 2017)
- Member of 13 Quality Assurance Committees for Master and PhD programs, madrid+d Foundation (2016 - present)