

Violeta Calleja Solanas, PhD Candidate

violeta@ifisc.uib-csic.es · @VioletaCalleja

PhD program, Physics of Complex Systems

Dec. 2019 - 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

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

- 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., 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., Hernández-García, & Meloni, S.
Conference on Complex Systems Lyon 2021
"Structural Predictors for Species Survival in Ecological Networks"
2. Calleja-Solanas, V., Hernández-García, & Meloni, S.
ECONET2021: V Symposium on ecological networks
"Structural Predictors for Species Survival in Ecological Networks"
3. Calleja-Solanas, V., Khalil, N., Hernández-García, E., Gómez-Gardeñes, J., & Meloni, S.
NETSCI 2020 (online)
"Structured interactions in competitive ecological systems"

4. 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"
5. 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. 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"
2. Calleja-Solanas, V., Gómez-Gardeñes, J., & Meloni, S., **International Conference on Complex Networks** (complenet19), "Structured interactions in competitive ecosystems"
3. Calleja-Solanas, V., Gómez-Gardeñes, J., & Meloni, S., **XXII Spanish Conference of Statistical Physics** FisEs'18, "High-order vs. structured interactions in competitive ecosystems"

Research workshops

- 'Fundamental Mathematical Models in Evolution', PhD-training course by Dr Eric Libby, **Umeå University** (online), from April to 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', organized by the International Centre for Theoretical Physics (**ICTP**) (online), from 30 November to 18 December 2020
- 'Third Northeast Regional Conference on Complex Systems **NERCCS 2020 School**' (online), 02/04/2020

Organizing experience

- **CCS 2021 Warm-Up School** for young researchers
- Part of the organizing and scientific committee 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)