

# Violeta Calleja Solanas

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## Ph.D. in Physics of Complex Systems

Dec. 2018 -  
Jul.2023

- **Institute for Cross-Disciplinary Physics and Complex Systems** (IFISC), University of the Balearic Islands, Spain
- University of Padova, Italy,  
3 three-month research visit under the supervision of Samir Suweis

## Master in Physics and Physical Technologies, University of Zaragoza, Spain

2017 - 2018

## Bachelor in Physics, University of Zaragoza, Spain

2012 - 2017

## Peer-reviewed publications

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. (2022). Structured interactions as a stabilizing mechanism for competitive ecosystems. [\*Phys. Rev. E\* 106, 064307](#)

## Working papers

5. **Calleja-Solanas, V.**, Sáiz, H., Hernández-García, & Meloni, S., Structural predictors for Species Survival in Ecological Networks
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
7. Gómez-Ambrosi, C., **Calleja-Solanas, V.**, Signed centrality measures

## Awards & Grants

Best poster award of the XXIII National Conference of Statistical Physics, 2022  
Santander Bank mobility grant for research visits at the University of Padova, 2021  
Ph.D. grant from the Government of the Balearic Islands (FPI-CAIB), 2021  
Winner of the data visualization contest CCS Warm-Up, 2020  
Best poster awards at out-research IFISC Poster Party, 2019 & 2020  
Best poster award of the International Conference on Complex Networks, 2019  
Best poster award of the Postgraduate Program, 2019  
María de Maeztu Unit of Excellence Ph.D. position, 2018  
Research Fellowships at Aragon Institute of Engineering Research, 2015 & 2016  
Erasmus for Chalmers University of Technology, Sweden, and University of Florence, Italy

## Invited talks

CSS Chapters Workshop, Conference on Complex Systems (CSS), Lyon 2021, "Mission and Initiatives of yrCSS" (round table invited by Dr. Bertrand Jouve)

## Contributed talks

Conference on Complex Systems (CSS)	2022 Palma, Spain
Young Modellers in Ecology workshop	2022 Online
Conference on Complex Systems (CSS)	2021 Lyon, France
ECONET2021: V Symposium on ecological networks	2021 Palma, Spain
Conference on Network Science (NetSci)	2020 Online
Conference on Complex Systems (CSS)	2019 Singapore
7º Conference for Young Researchers on Physics and Chemistry	2016 Zaragoza, Spain

## Contributed posters

XXIII National Conference of Statistical Physics FisEs'22	2022 Zaragoza, Spain
Conference on Complex Systems (CSS)	2021 Lyon, France
International Conference on Complex Networks (compenet19)	2019 Tarragona, Spain
XXII National Conference of Statistical Physics FisEs'18	2018 Madrid, Spain

## Memberships

Elected Chair of the **Young Researchers of the Complex Systems Society** (yrCCS) (2021-2023)  
Elected member of the **Council of the Complex Systems Society** (2020-2024)  
Elected member of the **Advisory Board** of the yrCCS (2020-2023)

## Organizing experience

- Organization and Chair of **Warm-Up School** at Conference on Complex Systems, 2022
- Organization and moderation of yrCCS **Panel on Mental Health in Academia** at 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 & 2022

## Professional service

- **Program committee** for Conference on Complex Systems, 2022 and 2023
- **Reviewer** in Nature Communication Physics, PLOS Computational Biology and Philosophical Transactions A RSTA

## Mentorship of Undergraduate Research

**Marc Duran**, jointly mentored with Sandro Meloni.

Master in Physics of Complex Systems, University of the Balearic Island, 2023

## Research workshops and schools

- **INTP** Autumn School: Syntheses in Theoretical Community Ecology, 3-8 October 2022, French Pyrenees
- **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

## Toolbox

Program languages: Matlab, python, R. With experience at:

- Github
- Developing code optimized for use in supercomputing clusters

Human languages: English C1, Italian B2, Spanish (native)

## Out-research & volunteer activities

- 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 concerts' posters (2017-2018)
- 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)
- Finalist in the XXIII Physical Olympiad Aragon Phase
- Member of 13 Quality Assurance Committees for Master and PhD programs, madrid+d Foundation (2016 - 2022)