

# Sandro Meloni

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CONTACT INFORMATION IFISC Institute for Cross-Disciplinary Physics and Complex Systems,  
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ORCID: 0000-0001-6202-3302 ScopusID: 24328833300 ResearcherID: B-3820-2011

CURRENT POSITION **Científico Titular (Tenured Scientist) of the Spanish National Research Council (CSIC).**  
IFISC Institute for Cross-Disciplinary Physics and Complex Systems, University of the Balearic Islands (UIB) and the Spanish National Research Council (CSIC).  
**Elected member of IFISC Board**

RESEARCH INTERESTS **Complex Systems, Statistical Physics of Complex Networks, Nonlinear Dynamics**  
**Collective Phenomena in Social Systems**  
**Computational Epidemiology**  
**Data Science**

RESEARCH EXPERIENCE

- Since Jul 2018. **Tenured Scientist at Spanish National Research Council (CSIC).**  
IFISC Institute for Cross-Disciplinary Physics and Complex Systems, Spanish National Research Council (CSIC).
- Jan-Jul 2018. **Ramón y Cajal Fellow (tenure track)**, Department of Theoretical Physics, University of Zaragoza (Spain).
- 2014 – 2017. **Juan de la Cierva Fellow**, Institute for Biocomputation and Physics of Complex Systems and Department of Theoretical Physics, University of Zaragoza (Spain).
- 2011 – 2018. **Executive Coordinator:** Gripenet project (<https://www.gripenet.es>). Spanish node of the European consortium Influenzanet.
- 2011 – 2014. **Postdoctoral fellow**, Institute for Biocomputation and Physics of Complex Systems, University of Zaragoza (Spain).
- 2007 – 2011. **Ph.D. student**, Department of Informatics and Automation, University of Rome “Roma Tre” (Italy).

EDUCATION **2011 Ph.D. in Computer Science and Automation**  
Department of Informatics and Automation,  
University of Rome “Roma Tre” (Italy).  
Thesis Title: *Complex Technological Networks: Structure, Dynamics and Algorithms*.  
Advisors: Prof. Yamir Moreno (University of Zaragoza),  
Prof. Stefano Panzieri (University of Rome “Roma Tre”).

**2006 M.Sc. in Informatics Engineering (summa cum laude),**  
Department of Informatics and Automation,  
University of Rome “Roma Tre” (Italy).

**2004 B.Sc. in Informatics Engineering,**  
Department of Informatics and Automation,  
University of Rome “Roma Tre” (Italy).

**Publications: 45+**

**Including:** 1 Nature Communications, 2 PNAS, 1 Phys. Rev. X, 1 Phys. Rev. Lett., 3 PLoS Comp. Bio. and 1 EPJ Data Science. 2 Phys. Rev. Research, 5 Scientific Reports, 7 Physical Review E.

**Citations: 3400+ (Google Scholar).**

**H-index: 23 (Google Scholar).**

**Google Scholar:** <https://scholar.google.com/citations?user=qRhFwwMAAAAJ>

## Preprints

50. Violeta Calleja-Solanas, Carlos A. Plata, María J Palazzi, Albert Solé-Ribalta, Javier Borge-Holthoefer, Samir Suweis, Sandro Meloni.  
*Macro-Ecological patterns in information ecosystems.*  
submitted (2021).
49. Violeta Calleja-Solanas, Nagi Khalil, Emilio Hernández-García, Jesús Gómez-Gardeñes, Sandro Meloni.  
*Structured interactions as a stabilizing mechanism for competitive ecosystems.*  
arXiv preprint arXiv:2012.14916 (2020).
48. Javier Aguilar, Aleix Bassolas, Gourab Ghoshal, Surendra Hazarie, Alec Kirkley, Mattia Mazzoli, Sandro Meloni, Sayat Mimar, Vincenzo Nicosia, Jose Javier Ramasco, Adam Sadilek.  
*Impact of urban structure on COVID-19 spread.*  
arXiv preprint arXiv:2007.15367 (2020).
47. Mattia Mazzoli, David Mateo, Alberto Hernando, Sandro Meloni, Jose Javier Ramasco.  
*Effects of mobility and multi-seeding on the propagation of the COVID-19 in Spain.*  
MedRxiv preprint 10.1101/2020.05.09.20096339 (2020).

## Journal papers

46. Violeta Calleja-Solanas, Emanuele Pigani, María J Palazzi, Albert Solé-Ribalta, Samir Suweis, Javier Borge-Holthoefer, Sandro Meloni.  
*Quantifying the drivers behind collective attention in information ecosystems.*  
Journal of Physics: Complexity, in printing (2021).
45. Mattia Mazzoli, Emanuele Pepe, David Mateo, Ciro Cattuto, Laetitia Gauvin, Paolo Bajardi, Michele Tizzoni, Alberto Hernando, Sandro Meloni, Jose J. Ramasco.  
*Interplay between mobility, multi-seeding and lockdowns shapes COVID-19 local impact.*  
PLoS computational biology 17 (10), e1009326 (2021).  
Citations: - Impact Factor: 4,475 - Quartile: Q1.
44. Felipe Maciel Cardoso, Sandro Meloni, Carlos Gracia-Lázaro, Alberto Antonioni, José A. Cuesta, Angel Sánchez, Yamir Moreno.  
*Framing in multiple public goods games and donation to charities.*  
Royal Society Open science 8 (5), 202117 (2021).  
Citations: - Impact Factor: 2,963 - Quartile: Q2.
43. María J Palazzi, Albert Solé-Ribalta, Violeta Calleja-Solanas, Sandro Meloni, Carlos A. Plata, Samir Suweis, Javier Borge-Holthoefer.  
*An ecological approach to structural flexibility in online communication systems.*  
Nature communications 12 (1), 1-11 (2021).  
Citations: 5 Impact Factor: 14,919 - Quartile: Q1.

42. Carlos A Plata, Emanuele Pigani, Sandro Azaele, Violeta Calleja-Solanas, María J Palazzi, Albert Solé-Ribalta, Javier Borge-Holthoefer, Sandro Meloni, Samir Suweis.  
*Neutral Theory for competing attention in social networks.*  
Physical Review Research 3 (1), 013070 (2021).  
Citations: 4 Impact Factor: - Quartile: -.
41. David Soriano-Paños, Judy Heliana Arias-Castro, Adriana Reyna-Lara, Hector J Martínez, Sandro Meloni, Jesús Gómez-Gardeñes.  
*Vector-borne epidemics driven by human mobility.*  
Physical Review Research 2 (1), 013312 (2020).  
Citations: 26 Impact Factor: - Quartile: -.
40. David Soriano-Paños, Fakhteh Ghanbarnejad, Sandro Meloni, Jesús Gómez-Gardeñes.  
*Markovian approach to tackle the interaction of simultaneous diseases.*  
Physical Review E 100 (6), 062308 (2019).  
Citations: 12 Impact Factor: 2,296 - Quartile: Q1.
39. Alberto Aleta, Sandro Meloni, Nicola Perra, Yamir Moreno.  
*Explore with caution: mapping the evolution of scientific interest in Physics.*  
EPJ Data Science 8, 27 (2019).  
Citations: 13 Impact Factor: 2,873 - Quartile: Q1.
38. Felipe M Cardoso, Sandro Meloni, André Santanché and Yamir Moreno.  
*Topical alignment in online social systems.*  
Frontiers in Physics 7, 58 (2019).  
Citations: 18 Impact Factor: 2,638 Quartile: Q2.
37. Kyriaki Kalimeri, Matteo Delfino, Ciro Cattuto, Daniela Perrotta, Vittoria Colizza, Caroline Guerrisi, Clement Turbelin, Jim Duggan, John Edmunds, Chinelo Obi, Richard Pebody, Ana O Franco, Yamir Moreno, Sandro Meloni, Carl Koppeschaar, Charlotte Kjelsø, Ricardo Mexia, Daniela Paolotti.  
*Unsupervised extraction of epidemic syndromes from participatory influenza surveillance self-reported symptoms.*  
PLoS computational biology 15 (4), e1006173 (2019).  
Citations: 15 Impact Factor: 4,7 Quartile: Q1.
36. Sergio Gómez, Albert Fernández, Sandro Meloni, Alex Arenas.  
*Impact of origin-destination information in epidemic spreading.*  
Scientific reports 9 (1), 1-9 (2019).  
Citations: 5 Impact Factor: 3,998 Quartile: Q1.
35. Judy Heliana Arias, Jesús Gómez-Gardeñes, Sandro Meloni, Ernesto Estrada.  
*Epidemics on plants: Modeling long-range dispersal on spatially embedded networks.*  
Journal of theoretical biology 453, 1-13 (2018).  
Citations: 13 Impact Factor: 1,875 Quartile: Q2.
34. Alberto Aleta, Andreia NS Hisi, Sandro Meloni, Chiara Poletto, Vittoria Colizza and Yamir Moreno.  
*Human mobility networks and persistence of rapidly mutating pathogens.*  
Royal Society Open Science 4: 160914 (2017).  
Citations: 14 Impact Factor: 2,504 Quartile: Q2.
33. Alberto Aleta, Sandro Meloni and Yamir Moreno.  
*A multilayer perspective for the analysis of urban transportation systems.*  
Scientific reports, 7 44359 (2017).  
Citations: 79 Impact Factor: 5.228 Quartile: Q1.

32. Sandro Meloni, Cheng-Yi Xia and Yamir Moreno.  
*Heterogeneous resource allocation can change social hierarchy in public goods games.*  
 Royal Society Open Science 4: 170092 (2017).  
 Citations: - Impact Factor: 2,504 Quartile: Q2.
  
31. Carl E Koppeschaar, Vittoria Colizza, Caroline Guerrisi, Clement Turbelin, Jim Duggan, W John Edmunds, Charlotte Kjelsø, Ricardo Mexia, Yamir Moreno, Sandro Meloni, Daniela Paolotti, Daniela Perrotta, Edward van Straten, Ana O Franco.  
*Influenzanet: citizens among 10 countries collaborating to monitor influenza in Europe.*  
 JMIR public health and surveillance 3 (3), e66 (2017).  
 Citations: 52. Impact Factor: 4,112 Quartile: Q2.
  
30. Alberto Aleta, Sandro Meloni, Matjaz Perc and Yamir Moreno.  
*From degree-correlated to payoff-correlated activity for an optimal resolution of social dilemmas.*  
 Physical Review E, 94, 062315 (2016)  
 Citations: 23 - Impact Factor: 2.52 Quartile: Q1.
  
29. Caroline Guerrisi, *et. al.*  
*Participatory Syndromic Surveillance of Influenza in Europe.*  
 Journal of Infectious Diseases, 214(suppl 4) S386-S392 (2016).  
 Citations: 74 Impact Factor: 6.344 Quartile: Q1.
  
28. Ernesto Estrada, Sandro Meloni and Yamir Moreno.  
*Epidemic Spreading in Random Rectangular Networks.*  
 Physical Review E, 94, 052316 (2016).  
 Citations: 33 Impact Factor: 2.52 Quartile: Q1.
  
27. Mattia Prosperi, Iain Buchan, Iuri Fanti, Sandro Meloni, Pietro Palladino and Vetle I. Torvik.  
*Kin of coauthorship in five decades of health science literature.*  
 Proc. Natl. Acad. Sci. U.S.A. (PNAS), 113(32) 8957-8962 (2016).  
 Citations: 16 Impact Factor: 9.423 Quartile: Q1.
  
26. Cheng-Yi Xia, Sandro Meloni, Matjaz Perc and Yamir Moreno.  
*Dynamic instability of cooperation due to diverse activity patterns in evolutionary social dilemmas.*  
 Europhysics Letters, 109(5) 58002 (2015).  
 Citations: 96 Impact Factor: 1.963 Quartile: Q1.
  
25. Chiara Poletto, Sandro Meloni, Ashleigh Van Metre, Vittoria Colizza, Yamir Moreno and Alessandro Vespignani.  
*Characterising two-pathogen competition in spatially structured environments.*  
 Scientific reports, 5 7895 (2015).  
 Citations: 29 Impact Factor: 5.228 Quartile: Q1.
  
24. Joaquín Sanz, Cheng-Yi Xia, Sandro Meloni and Yamir Moreno.  
*Dynamics of interacting diseases.*  
 Physical Review X, 4(4) 041005 (2014).  
 Citations: 210 Impact Factor: 9.043 Quartile: Q1.
  
23. Emanuele Cozzo, Raquel A. Baños, Sandro Meloni and Yamir Moreno.  
*Contact-based social contagion in multiplex networks.*  
 Physical Review E, 88 050801(R) (2013).  
 Citations: 239 Impact Factor: 2.326 Quartile: Q1.
  
22. Zhen Wang, Cheng-Yi Xia, Sandro Meloni, Chang-Song Zhou and Yamir Moreno.  
*Impact of social punishment on cooperative behavior in complex networks.*  
 Scientific reports, 3 3055 (2013).  
 Citations: 182 Impact Factor: 5.078 Quartile: Q1.

21. Chiara Poletto, Sandro Meloni, Vittoria Colizza, Yamir Moreno and Alessandro Vespignani.  
*Host mobility drives pathogen competition in spatially structured populations.*  
PLoS Computational Biology, 9(8) e1003169 (2013).  
Citations: 52 Impact Factor: 9.043 Quartile: Q1.
20. Cheng-yi Xia, Zhen Wang, Joaquín Sanz, Sandro Meloni and Yamir Moreno.  
*Effects of delayed recovery and nonuniform transmission on the spreading of diseases in complex networks.*  
Physica A, 392(7) 1577-1585 (2013).  
Citations: 102 Impact Factor: 1.722 Quartile: Q2.
19. Javier Borge-Holthoefer, Sandro Meloni, Bruno Gonçalves and Yamir Moreno.  
*Emergence of influential spreaders in modified rumor models.*  
Journal of Statistical Physics, 151(1-2) 383-393 (2012).  
Citations: 85 Impact Factor: 1.4 Quartile: Q2.
18. Mattia CF Prosperi, Iuri Fanti, Sandro Meloni, Stefano Panzieri, Giovanni Ulivi and Marco Salemi.  
*Characterization of de novo assemblies of quasispecies from next-generation sequencing via complex network modeling.*  
Scientific Research and Essays, 7(33) 2997-3009 (2012).  
Citations: 1 Impact Factor: 0.445 Quartile: Q3.
17. Sandro Meloni, Jesús Gómez-Gardeñes, Vito Latora and Yamir Moreno.  
*Effects of traffic properties and degree heterogeneity in flow fluctuations on complex networks.*  
International Journal of Bifurcation and Chaos, 22(7) 1250170 (2012).  
Citations: 2 Impact Factor: 0.921 Quartile: Q2.
16. Alessio Cardillo, Sandro Meloni, Jesús Gómez-Gardeñes and Y. Moreno.  
*Velocity-enhanced Cooperation of Moving Agents playing Public Goods Games.*  
Physical Review E, 85 067101 (2012).  
Citations: 52 Impact Factor: 2.313 Quartile: Q1.
15. Cheng-Yi Xia, Sandro Meloni and Yamir Moreno.  
*Effects of environment knowledge on agglomeration and cooperation in spatial public goods games.*  
Advances in Complex Systems, 15 1250056 (2012).  
Citations: 64 Impact Factor: 0.647 Quartile: Q3.
14. Sandro Meloni, Nicola Perra, Alex Arenas, Sergio Gómez, Yamir Moreno and A. Vespignani.  
*Modeling Human Mobility Responses to the Large-scale Spreading of Infectious Diseases.*  
Scientific Reports, 1 62 (2011).  
Citations: 337 Impact Factor: 5.078 Quartile: Q1.
13. Sergio Gómez, Alex Arenas, Javier Borge-Holthoefer, Sandro Meloni, Yamir Moreno.  
*Probabilistic framework for epidemic spreading in complex networks.*  
Int. J. Complex Syst. Sci 1, 47-54 (2011).
12. Sandro Meloni and Jesús Gómez-Gardeñes.  
*Local Empathy provides Global minimization of Congestion in communication networks.*  
Physical Review E 82, 056105 (2010).  
Citations: 43 Impact Factor: 2.352 Quartile: Q1.
11. Sergio Gómez, Alex Arenas, Javier Borge-Holthoefer, Sandro Meloni and Yamir Moreno.  
*Discrete-time Markov chain approach to contact-based disease spreading in complex networks.*  
Europhysics Letters 89, 38009 (2010).  
Citations: 405 Impact Factor: 2.753 Quartile: Q1.

10. Sandro Meloni, Alex Arenas and Yamir Moreno.  
*Traffic-driven epidemic spreading in finite-size scale-free networks.*  
 Proc. Natl. Acad. Sci. U.S.A. (PNAS) 106, 16897 (2009).  
 Citations: 188 Impact Factor: 9.432 Quartile: Q1.
  
9. Sandro Meloni, Arturo Buscarino, Luigi Fortuna, Mattia Frasca, Jesús Gómez-Gardeñes, Vito Latora and Yamir Moreno.  
*Effects of mobility in a population of prisoner's dilemma players.*  
 Physical Review E 79, 067101 (2009).  
 Citations: 245 Impact Factor: 2.4 Quartile: Q1.
  
8. Sandro Meloni, Jesús Gómez-Gardeñes, Vito Latora and Yamir Moreno.  
*Scaling Breakdown in Flow Fluctuations on Complex Networks.*  
 Physical Review Letters, 100 208701 (2008).  
 Citations: 116 Impact Factor: 7.018 Quartile: Q1.
  
7. Vittorio Rosato, Limor Issacharoff, Sandro Meloni, Daniele Caligiore and Fabio Tiriticco.  
*Is the topology of the Internet network really fit to sustain its function?*  
 Physica A, 387(7) 1689-1704 (2008).  
 Citations: 35 Impact Factor: 1.441 Quartile: Q2.
  
6. V. Rosato, L. Issacharoff, F. Tiriticco, S. Meloni, S. De Porcellinis and R. Setola.  
*Modelling interdependent infrastructures using interacting dynamical models.*  
 International Journal of Critical Infrastructures 4, 63-79 (2008).  
 Citations: 502 Impact Factor: 0.63 Quartile: Q3.

## Book Chapters

5. Sandro Meloni, Alex Arenas, Sergio Gómez, Javier Borge-Holthoefer and Yamir Moreno.  
*Modeling epidemic spreading in complex networks: concurrency and traffic.*  
 Handbook of Optimization in Complex Networks 435-462 (Springer) (2012).  
 Citations: 18.
  
4. Matteo De Felice, Sandro Meloni and Stefano Panzieri.  
*Effect of topology on diversity of spatially-structured evolutionary algorithms.*  
 Proceedings of the 13th annual conference on Genetic and evolutionary computation 1579-1586 (2011).  
 Citations: 8.
  
3. Antonia Azzini, Matteo De Felice, Sandro Meloni and Andrea GB Tettamanzi.  
*Soft computing techniques for internet backbone traffic anomaly detection.*  
 Applications of Evolutionary Computing, LNCS 5484, 99-104 (Springer Berlin Heidelberg) (2009).  
 Citations: 4.
  
2. Andrea Gasparri, Sandro Meloni and Stefano Panzieri.  
*Growing Fully Distributed Robust Topologies in a Sensor Network.*  
 Modelling, Estimation and Control of Networked Complex Systems, 143-158 (Springer Berlin Heidelberg) (2009).  
 Citations: 3.
  
1. Vittorio Rosato, Sandro Meloni, Ingve Simonsen, Limor Issacharoff, Karsten Peters, Nils Von Festenberg and Dirk Helbing.  
*A complex system's view of critical infrastructures.*  
 Managing Complexity: Insights, Concepts, Applications, 241-260 (Springer Berlin Heidelberg) (2008).  
 Citations: 8.

PARTICIPATION IN **Major Competitive Research Projects**

RESEARCH  
PROJECTS

*Name:* PACSS – Physics Approach to Complexity in Sociotechnical Systems  
*Role:* Co-PI  
*Funding entity:* Spanish State Research Agency  
*Dates:* from 01/01/2019 to 31/12/2021  
*Funding:* 284.350 €

*Name:* HOINK – Higher-Order Interactions In complex NetworkKs  
*Role:* PI  
*Funding entity:* Spanish National Research Council (CSIC)  
*Dates:* from 22/11/2018 to 21/11/2019  
*Funding:* 5.000 €

*Name:* TEAMS – Towards an Ecological Approach of inforMation Systems  
*Role:* Local-PI  
*Funding entity:* Cariparo Foundation, Visiting Programme  
*Dates:* from 01/12/2018 to 30/11/2019  
*Funding:* 30.000 €

*Name:* IBSEN – Bridging the gap: from Individual Behaviour to the Socio-tEchnical MaN  
*Role:* Researcher  
*Funding entity:* European Commission - H2020 FET–OPEN  
*Dates:* from 01/09/2015 to 31/08/2018  
*Funding:* 2.663.237 €

*Name:* DOLFINS – Distributed Global Financial Systems for Society  
*Role:* Researcher  
*Funding entity:* European Commission - H2020 FET–OPEN  
*Dates:* from 01/03/2015 to 28/02/2018  
*Funding:* 4.250.000 €

*Name:* SOCIOBIOTEC: Física Estadística y no lineal aplicada a sistemas sociales, bioológicos y tecnológicos  
*Role:* Researcher  
*Funding entity:* Spanish Ministry for Science and Innovation  
*Dates:* from 01/06/2015 to 31/12/2017

*Name:* MULTIPLEX – Foundational Research on MULTIlevel comPLEX networks and systems  
*Role:* Researcher  
*Funding entity:* European Commission - FP7 FET–PROACTIVE  
*Dates:* from 01/11/2012 to 31/10/2016  
*Funding:* 7.861.905 €

*Name:* PLEXMATH – Mathematical framework for multiplex networks  
*Role:* Researcher  
*Funding entity:* European Commission - FP7 FET–PROACTIVE  
*Dates:* from 01/11/2012 to 31/10/2015  
*Funding:* 1.975.673 €

*Name:* REDES, BIOFISICA Y CIENCIA NO LINEAL  
*Role:* Researcher  
*Funding entity:* Spanish Ministry for Science and Innovation  
*Dates:* from 03/12/2012 to 31/12/2014  
*Funding:* 259.000 €

## Major invited talks & seminars

*Title:* Dynamics of interacting diseases.

*Venue:* Department of Physics, University of Padova.

*Type:* Invited seminars at the Lifa Data Epidemiology Master Course

*Place & Dates:* Padova (Italy), 18-19 November 2021.

*Title:* Ecology of Online Social Systems.

*Venue:* Institute for Biocomputation and the Physics of Complex Systems (BIFI).

*Type:* Invited Seminar.

*Place & Dates:* Zaragoza (Spain), 4 June 2021.

*Title:* Disease Spreading on Complex Networks.

*Venue:* CCS Warm-Up.

*Type:* Keynote speaker.

*Place & Dates:* Thessaloniki (Greece), 21-23 September 2018.

*Title:* Epidemic Spreading on Multiplex Networks.

*Venue:* MultiNets 2018 (NetSci2018 Satellite).

*Type:* Keynote Conference

*Place & Dates:* Paris (France), 11 June 2018.

*Title:* Adding realism to Evolutionary Game Theory.

*Venue:* Games on Networks: from Theory to Experiments (NetSci2018 Satellite).

*Type:* Keynote Conference

*Place & Dates:* Paris (France), 12 June 2018.

*Title:* Use and misuse of data from Online Social Networks.

*Venue:* WWCS2016 - Winter Workshop on Complex Systems 2016.

*Type:* Keynote speaker.

*Place & Dates:* Madrid (Spain), 25-29/01/2016.

*Title:* Spreading processes on networks.

*Venue:* 2nd Mediterranean School of Complex Networks.

*Type:* Lecturer.

*Place & Dates:* Salina (Italy), 03-08/09/2015.

*Title:* Spreading processes on networks.

*Venue:* 1st Mediterranean School of Complex Networks.

*Type:* Lecturer.

*Place & Dates:* Salina (Italy), 09-13/06/2014.

*Title:* Interacting epidemics on interconnected networks.

*Venue:* NetONets Satellite of NetSci2014 conference.

*Type:* Keynote speaker.

*Place & Dates:* Berkeley, CA (USA), 02-06/06/2014.

*Title:* Online Networks and the Diffusion of Protests.

*Venue:* Complexity in social systems: from data to models.

*Type:* Keynote speaker.

*Place & Dates:* Cergy-Pontoise (France), 27-28/06/2013.

## Ph.D., Master & Bachelor students

### *Ph.D. Students*

- Fernando Díaz Díaz University of Balearic Islands. Expected to defend in 2025.
- Jesús A. Moreno Lopez. University of Balearic Islands. Expected to defend in 2024.
- Beatriz Arregui García. University of Balearic Islands. Expected to defend in 2024.
- Violeta Calleja Solanas. University of Balearic Islands. Expected to defend in 2023.
- Alberto Aleta Casas. University of Zaragoza. Thesis title: “Networks, Epidemics and Collective Behavior: from Physics to Data Science”. Higher marks, 12/2019.
- Alessio Vincenzo Cardillo. University of Zaragoza, Thesis title: “Beyond simple complex-networks: coevolution, multiplexity, and time-varying interactions”. Highest marks, 07/2014.

### *Master & Bachelor Students*

- Fernando Díaz Díaz. University of Balearic Islands. Master thesis. Title: “Information processing in homophilic and heterophilic social networks: simple vs. complex contagion”. Marks 9.8/10, 07/2021.
- Marius-Jascha Magiera. University of Balearic Islands. Master thesis. Title: “Competition for attention in social networks - An ecological approach”. Marks 9.1/10, 12/2020.
- Sergio Lacasta López University of Balearic Islands. Master thesis. Title: “Stochastic games on complex networks: study on a Prisoner’s Dilemma and a Public Good Games”. Marks 8.5/10, 09/2019.
- Violeta Calleja Solanas. University of Zaragoza. Master thesis. Title: “High-order versus structured interactions in competitive ecosystems”. Marks: 9.8/10, 07/2018.
- Mario Tovar Calonge. University of Zaragoza. Bachelor thesis. Title: “Contención de enfermedades en redes multicapa (in Spanish)”. Marks: 9.2/10, 07/2018.
- Alberto Aleta Casas. University of Zaragoza. Master thesis. Title: “Estructura y dinámica de redes multiplex (in Spanish)”. Marks: 9.8/10, 07/2015.

## Teaching Experience

*Course name:* Complex Networks (3 ECTS).

*Venue:* University of Balearic Islands, Spain. Master degree in Physics of Complex Systems.

*Academic year:* 2021–2022.

*Course name:* Scientific presentation and visualization (3 ECTS).

*Venue:* University of Balearic Islands, Spain. Master degree in Physics of Complex Systems.

*Academic year:* 2021–2022.

*Course name:* Life Data Epidemiology (6 ECTS).

*Venue:* University of Padova, Italy. Master degree in Physics of Data.

*Academic year:* 2020–2021.

*Course name:* Complex Networks (3 ECTS).

*Venue:* University of Balearic Islands, Spain. Master degree in Physics of Complex Systems.

*Academic year:* 2020–2021.

*Course name:* Scientific presentation and visualization (3 ECTS).

*Venue:* University of Balearic Islands, Spain. Master degree in Physics of Complex Systems.

*Academic year:* 2020–2021.

*Course name:* Física Computacional (6 ECTS).  
*Venue:* University of Zaragoza. Bachelor degree in Physics.  
*Academic year:* 2015–2016.

*Course name:* Física Computacional (6 ECTS).  
*Venue:* University of Zaragoza. Bachelor degree in Physics.  
*Academic year:* 2014–2015.

*Course name:* Física Computacional (6 ECTS).  
*Venue:* University of Zaragoza. Bachelor degree in Physics.  
*Academic year:* 2013–2014.

## RECOGNITION & SERVICE

### Awards

2017 - **Junior Scientific Award** by the Complex Systems Society.

### Conferences Organization & Programme Committees

- Organizer (Co-Chair) of the 2022 Conference on Complex Systems (CCS2022): Palma de Mallorca (Spain), October, 2022. Notes: CCS is the flagship conference on Complex Systems.
- Organizer (general Co-Chair) of NetSci 2015: International School and Conference on Complex Networks, held in Zaragoza (Spain), June 1–5, 2015. Notes: Netsci is the flagship conference on Network Science with more than 550 attendees.
- Organizer of Contagion: Modeling of Disease Contagion Processes, series From 2013 to 2017. Satellites of ECCS/CCS Conferences.

### Scientific Societies

- 2015 – 2021. Elected member of the steering committee of the Conference on Complex Systems (CCS).
- 2016 – 2021. Board member of the Network Science Society (NetSci).
- 2014 – 2018. Elected member of the council of the Complex Systems Society (CSS).

**Academic Editor:** PLoS ONE.

**Referee:** Serving as a referee for more than 25 international journals including:

*Nature Communications, Physical Review Letters, Physical Review E, EuroPhysics Letters, Scientific Reports, PLoS ONE, European Physics Journal Data Science, Network Science, Journal of Complex Networks, Information Sciences, Communication Networks, Journal of Computational Sciences.*

Member of the Programme Committee of more than 15 international conferences including:

*NetSci Conferences series, CCS Conferences series, CompleNet Conferences series, ComplexNetworks.*

## STAYS AT INTERNATIONAL RESEARCH CENTERS

- 14-19/11/2021 (1 week). LIPH Lab, Department of Physics, University of Padova (Italy).
- 10/2020 – 11/2020 (1 month). LIPH Lab, Department of Physics, University of Padova (Italy).
- 12-16/03/2019 (5 days). Cosin3 group, Universitat Obierta de Catalunya, Barcelona (Spain).
- 17-24/11/2014 (1 week). British Columbia Center for Disease Control, Vancouver (Canada).
- 27/04/2011 – 31/07/2011 (3 months). Institute for Scientific Interchange (ISI) Turin (Italy).
- 01/04/2009 – 30/09/2009 (6 months). University of Zaragoza (Spain).
- 01/2008 – 03/2008 (3 months). Vito Latora's group, Department of Physics, University of Catania (Italy).