

# Roger Guimerà

## Curriculum Vitae

NAME: Roger Guimerà Manrique ADDRESS: Dept. Enginyeria Química  
BORN: July 5, 1976 Av. Països Catalans 26, 43007 Tarragona, Spain  
CITIZENSHIP: Spanish E-MAIL: roger.guimera@urv.cat

### Current Position

ICREA Research Professor at Universitat Rovira i Virgili, Tarragona, Spain

### Education

Universitat Rovira i Virgili (Spain) Chemical Engineering Ph.D. Dec. 2002  
Universitat de Barcelona (Spain) Physics B.Sc. July 1998

### Appointments

2010–present	<i>Research Professor</i>	ICREA and Universitat Rovira i Virgili
2010–2012	<i>Adjunct Professor</i>	Northwestern University
2008–2009	<i>Research Assistant Professor</i>	Northwestern University
2006–2007	<i>Postdoctoral Fellow</i>	Northwestern University
2004–2005	<i>Fulbright Scholar</i>	Northwestern University
2002–2003	<i>Postdoctoral Fellow</i>	Northwestern University

### Awards and Honors

- 2014 - Young Scientist Award for Socio- and Econophysics, German Physical Society (DPG).
- 2012 - Erdos-Renyi Prize in Network Science, Network Science Society.
- 2010 - Premi Nacional de Recerca al Talent Jove (best Researcher in Catalonia under the age of 35), Catalan Government.
- 2004 - Fulbright Scholarship.
- 2002 - Prize for Outstanding PhD thesis, Universitat Rovira i Virgili (Spain).

## Publication Summary

Source: ISI Web of Science, as of January 10th, 2023. In parenthesis, Google Scholar (GS)

Publications:	81
Total citations:	10,421 (GS: 18,488)
H-index:	33 (GS: 40)
Average citations per article:	129 (GS: 228)

## Peer-Reviewed Publications

76. Vazquez, D, Guimera, R, Sales-Pardo, M, Guillen-Gosalbez, G, "Automatic Modeling Of Socioeconomic Drivers Of Energy Consumption And Pollution Using Bayesian Symbolic Regression," *Sustainable Production And Consumption* **30**, 596 (2022) [**Times cited: 3**]
75. Gonzalez-Franquesa, A *et al.*, "Remission Of Obesity And Insulin Resistance Is Not Sufficient To Restore Mitochondrial Homeostasis In Visceral Adipose Tissue," *Redox Biology* **54**, 102353 (2022) [**Times cited: 3**]
74. Fajardo-Fontiveros, O, Guimera, R, Sales-Pardo, M, "Node Metadata Can Produce Predictability Crossovers In Network Inference Problems," *Physical Review X* **12** (1), 011010 (2022) [**Times cited: 2**]
73. Cobo-López, S, Gupta, V, Sung, J, Guimera, R, Sales-Pardo, M, "Stochastic Block Models Reveal A Robust Nested Pattern In Healthy Human Gut Microbiomes," *PNAS Nexus* **1** (3), pgac055 (2022) [**Times cited: 1**]
72. Negri, V, Vazquez, D, Sales-Pardo, M, Guimera, R, Guillen-Gosalbez, G, "Bayesian Symbolic Learning To Build Analytical Correlations From Rigorous Process Simulations: Application To CO<sub>2</sub> Capture Technologies," *ACS Omega* **7** (45), 41147 (2022)
71. Suriyalaksh, M *et al.*, "Gene Regulatory Network Inference In Long-Lived *C. elegans* Reveals Modular Properties That Are Predictive Of Novel Aging Genes," *iScience* **25** (1), 103663 (2022)
70. Rodriguez-Martinez, X, Pascual-San-Jose, E, Fei, Z, Heeney, M, Guimera, R, Campoy-Quiles, M, "Predicting The Photocurrent-Composition Dependence In Organic Solar Cells," *Energy & Environmental Science* **14** (2), 986 (2021) [**Times cited: 17**]
69. Poux-Medard, G, Cobo-Lopez, S, Duch, J, Guimera, R, Sales-Pardo, M, "Complex Decision-Making Strategies In A Stock Market Experiment Explained As The Combination Of Few Simple Strategies," *Epj Data Science* **10** (1), 26 (2021) [**Times cited: 1**]
68. Guimera, R, Reichardt, I, Aguilar-Mogas, A, Massucci, FA, Miranda, M, Pallares, J, Sales-Pardo, M, "A Bayesian Machine Scientist To Aid In The Solution Of Challenging Scientific Problems," *Science Advances* **6** (5), eaav6971 (2020) [**Times cited: 22**]

67. Pozo, C, Galan-Martin, A, Cortes-Borda, D, Sales-Pardo, M, Azapagic, A, Guimera, R, Guillen-Gosalbez, G, "Reducing Global Environmental Inequality: Determining Regional Quotas For Environmental Burdens Through Systems Optimisation," *Journal Of Cleaner Production* **270**, 121828 (2020) [**Times cited: 10**]
66. Guimera, R, "One Model To Rule Them All In Network Science?," *Proceedings Of The National Academy Of Sciences Of The United States Of America* **117** (41), 25195 (2020) [**Times cited: 6**]
65. Reichardt, I, Pallares, J, Sales-Pardo, M, Guimera, R, "Bayesian Machine Scientist To Compare Data Collapses For The Nikuradse Dataset," *Physical Review Letters* **124** (8), 084503 (2020) [**Times cited: 2**]
64. Menden, MP *et al.*, "Community Assessment To Advance Computational Prediction Of Cancer Drug Combinations In A Pharmacogenomic Screen," *Nature Communications* **10**, 2674 (2019) [**Times cited: 134**]
63. Senan, O, Aguilar-Mogas, A, Navarro, M, Capellades, J, Noon, L, Burks, D, Yanes, O, Guimera, R, Sales-Pardo, M, "Cliquems: A Computational Tool For Annotating In-Source Metabolite Ions From Lc-Ms Untargeted Metabolomics Data Based On A Coelution Similarity Network," *Bioinformatics* **35** (20), 4089 (2019) [**Times cited: 40**]
62. Tarres-Deulofeu, M, Godoy-Lorite, A, Guimera, R, Sales-Pardo, M, "Tensorial And Bipartite Block Models For Link Prediction In Layered Networks And Temporal Networks," *Physical Review E* **99** (3), 032307 (2019) [**Times cited: 11**]
61. Uroz, M, Wistorf, S, Serra-Picamal, X, Conte, V, Sales-Pardo, M, Roca-Cusachs, P, Guimera, R, Trepas, X, "Regulation Of Cell Cycle Progression By Cell-Cell And Cell-Matrix Forces," *Nature Cell Biology* **20** (6), 646 (2018) [**Times cited: 75**]
60. Valles-Catala, T, Peixoto, TP, Sales-Pardo, M, Guimera, R, "Consistencies And Inconsistencies Between Model Selection And Link Prediction In Networks," *Physical Review E* **97** (6), 062316 (2018) [**Times cited: 28**]
59. Garcia-Algar, M, Fernandez-Carrascal, A, Olano-Daza, A, Guerrini, L, Feliu, N, Parak, WJ, Guimera, R, Garcia-Rico, E, Alvarez-Puebla, RA, "Adaptive Metabolic Pattern Biomarker For Disease Monitoring And Staging Of Lung Cancer With Liquid Biopsy," *Npj Precision Oncology* **2**, 16 (2018) [**Times cited: 6**]
58. Cobo-Lopez, S, Godoy-Lorite, A, Duch, J, Sales-Pardo, M, Guimera, R, "Optimal Prediction Of Decisions And Model Selection In Social Dilemmas Using Block Models," *Epj Data Science* **7**, 48 (2018) [**Times cited: 6**]
57. Niven, RK, Schlegel, M, Abel, M, Waldrip, SH, Guimera, R, "Maximum Entropy Analysis Of Flow Networks With Structural Uncertainty (Graph Ensembles)," *Bayesian Inference And Maximum Entropy Methods In Science And Engineering, Maxent 37* **239**, 261 (2018) [**Times cited: 2**]

56. Aguilar-Mogas, A, Sales-Pardo, M, Navarro, M, Guimera, R, Yanes, O, "Imet: A Network-Based Computational Tool To Assist In The Annotation Of Metabolites From Tandem Mass Spectra," *Analytical Chemistry* **89** (6), 3474 (2017) [**Times cited: 34**]
55. Rovira-Asenjo, N, Pietraszkiewicz, A, Szczesny, S, Gumi, T, Guimera, R, Sales-Pardo, M, "Leader Evaluation And Team Cohesiveness In The Process Of Team Development: A Matter Of Gender?," *Plos One* **12** (10), e0186045 (2017) [**Times cited: 10**]
54. Esteve-Altava, B, Valles-Catala, T, Guimera, R, Sales-Pardo, M, Rasskin-Gutman, D, "Bone Fusion In Normal And Pathological Development Is Constrained By The Network Architecture Of The Human Skull," *Scientific Reports* **7**, 3376 (2017) [**Times cited: 3**]
53. Valles-Catala, T, Massucci, FA, Guimera, R, Sales-Pardo, M, "Multilayer Stochastic Block Models Reveal The Multilayer Structure Of Complex Networks," *Physical Review X* **6** (1), 011036 (2016) [**Times cited: 64**]
52. Godoy-Lorite, A, Guimera, R, Moore, C, Sales-Pardo, M, "Accurate And Scalable Social Recommendation Using Mixed-Membership Stochastic Block Models," *Proceedings Of The National Academy Of Sciences Of The United States Of America* **113** (50), 14207 (2016) [**Times cited: 26**]
51. Godoy-Lorite, A, Guimera, R, Sales-Pardo, M, "Long-Term Evolution Of Email Networks: Statistical Regularities, Predictability And Stability Of Social Behaviors," *Plos One* **11** (1), e0146113 (2016) [**Times cited: 8**]
50. Massucci, FA, Wheeler, J, Beltran-Debon, R, Joven, J, Sales-Pardo, M, Guimera, R, "Inferring Propagation Paths For Sparsely Observed Perturbations On Complex Networks," *Science Advances* **2** (10), e1501638 (2016) [**Times cited: 7**]
49. Bazellieres, E *et al.*, "Control Of Cell-Cell Forces And Collective Cell Dynamics By The Intercellular Adhesome," *Nature Cell Biology* **17** (4), 409 (2015) [**Times cited: 185**]
48. Cortes-Borda, D, Ruiz-Hernandez, A, Guillen-Gosalbez, G, Llop, M, Guimera, R, Sales-Pardo, M, "Identifying Strategies For Mitigating The Global Warming Impact Of The Eu-25 Economy Using A Multi-Objective Input-Output Approach," *Energy Policy* **77**, 21 (2015) [**Times cited: 33**]
47. Beltran-Debon, R *et al.*, "The Acute Impact Of Polyphenols From Hibiscus Sabdariffa In Metabolic Homeostasis: An Approach Combining Metabolomics And Gene-Expression Analyses," *Food & Function* **6** (9), 2957 (2015) [**Times cited: 18**]
46. Sirer, MI, Maroulis, S, Guimera, R, Wilensky, U, Amaral, LAN, "The Currents Beneath The "Rising Tide" Of School Choice: An Analysis Of Student Enrollment Flows In The Chicago Public Schools," *Journal Of Policy Analysis And Management* **34** (2), 358 (2015) [**Times cited: 11**]
45. Pallares, J, Senan, O, Guimera, R, Vernet, A, Aguilar-Mogas, A, Vilahur, G, Badimon, L, Sales-Pardo, M, Cito, S, "A Comprehensive Study On Different Modelling Approaches To Predict Platelet Deposition Rates In A Perfusion Chamber," *Scientific Reports* **5**, 13606 (2015) [**Times cited: 2**]

44. Alessandro Massucci, F, Guimera, R, Amaral, LAN, Sales-Pardo, M, "Scaling And Optimal Synergy: Two Principles Determining Microbial Growth In Complex Media," *Physical Review E* **91** (6), 062703 (2015)
43. Li, G, Li, M, Zhang, Y, Wang, D, Li, R, Guimera, R, Gao, JT, Zhang, MQ, "Modulerole: A Tool For Modulization, Role Determination And Visualization In Protein-Protein Interaction Networks," *Plos One* **9** (5), e94608 (2014) [**Times cited: 7**]
42. Gavalda-Miralles, A, Choffnes, DR, Otto, JS, Sanchez, MA, Bustamante, FE, Amaral, LAN, Duch, J, Guimera, R, "Impact Of Heterogeneity And Socioeconomic Factors On Individual Behavior In Decentralized Sharing Ecosystems," *Proceedings Of The National Academy Of Sciences Of The United States Of America* **111** (43), 15322 (2014) [**Times cited: 7**]
41. Cortes-Borda, D, Ruiz-Hernandez, A, Guillen-Gosalbez, G, Llop, M, Guimera, R, Sales-Pardo, M, "Ghg Emissions Minimization At The Macroeconomic Level Via A Multi-Objective Optimization/Input-Output Approach: A Case Study Of The Eu-25 Economy," *24Th European Symposium On Computer Aided Process Engineering, Pts A And B* **33**, 1069 (2014) [**Times cited: 3**]
40. Guimera, R, Sales-Pardo, M, "A Network Inference Method For Large-Scale Unsupervised Identification Of Novel Drug-Drug Interactions," *Plos Computational Biology* **9** (12), e1003374 (2013) [**Times cited: 40**]
39. Rovira-Asenjo, N, Gumi, T, Sales-Pardo, M, Guimera, R, "Predicting Future Conflict Between Team-Members With Parameter-Free Models Of Social Networks," *Scientific Reports* **3**, 1999 (2013) [**Times cited: 16**]
38. Pah, AR, Guimera, R, Mustoe, AM, Amaral, LAN, "Use Of A Global Metabolic Network To Curate Organismal Metabolic Networks," *Scientific Reports* **3**, 1695 (2013) [**Times cited: 9**]
37. Capitan, JA, Arenas, A, Guimera, R, "Degree Of Intervality Of Food Webs: From Body-Size Data To Models," *Journal Of Theoretical Biology* **334**, 35 (2013) [**Times cited: 9**]
36. Guimera, R, Llorente, A, Moro, E, Sales-Pardo, M, "Predicting Human Preferences Using The Block Structure Of Complex Social Networks," *Plos One* **7** (9), e44620 (2012) [**Times cited: 33**]
35. Seaver, SMD, Sales-Pardo, M, Guimera, R, Amaral, LAN, "Phenomenological Model For Predicting The Catabolic Potential Of An Arbitrary Nutrient," *Plos Computational Biology* **8** (11), e1002762 (2012) [**Times cited: 1**]
34. Guimera, R, Sales-Pardo, M, "Justice Blocks And Predictability Of Us Supreme Court Votes," *Plos One* **6** (11), e27188 (2011) [**Times cited: 25**]
33. Gao, JT, Guimera, R, Li, H, Pinto, IM, Sales-Pardo, M, Wai, SC, Rubinstein, B, Li, R, "Modular Coherence Of Protein Dynamics In Yeast Cell Polarity System," *Proceedings Of The National Academy Of Sciences Of The United States Of America* **108** (18), 7647 (2011) [**Times cited: 10**]

32. Guimera, R, Stouffer, DB, Sales-Pardo, M, Leicht, EA, Newman, MEJ, Amaral, LAN, "Origin Of Compartmentalization In Food Webs," *Ecology* **91** (10), 2941 (2010) [**Times cited: 98**]
31. Maroulis, S, Guimera, R, Petry, H, Stringer, MJ, Gomez, LM, Amaral, LAN, Wilensky, U, "Complex Systems View Of Educational Policy Research," *Science* **330** (6000), 38 (2010) [**Times cited: 55**]
30. Arenas, A, Cabrales, A, Danon, L, Diaz-Guilera, A, Guimera, R, Vega-Redondo, F, "Optimal Information Transmission In Organizations: Search And Congestion," *Review Of Economic Design* **14** (1-2), 75 (2010) [**Times cited: 9**]
29. Guimera, R, Sales-Pardo, M, "Missing And Spurious Interactions And The Reconstruction Of Complex Networks," *Proceedings Of The National Academy Of Sciences Of The United States Of America* **106** (52), 22073 (2009) [**Times cited: 471**]
28. Sales-Pardo, M, Guimera, R, Moreira, AA, Amaral, LAN, "Extracting The Hierarchical Organization Of Complex Systems," *Proceedings Of The National Academy Of Sciences Of The United States Of America* **104** (39), 15224 (2007) [**Times cited: 366**]
27. Guimera, R, Sales-Pardo, M, Amaral, LAN, "Classes Of Complex Networks Defined By Role-To-Role Connectivity Profiles," *Nature Physics* **3** (1), 63 (2007) [**Times cited: 291**]
26. Guimera, R, Sales-Pardo, M, Amaral, LAN, "Module Identification In Bipartite And Directed Networks," *Physical Review E* **76** (3), 036102 (2007) [**Times cited: 262**]
25. Guimera, R, Sales-Pardo, M, Amaral, LAN, "A Network-Based Method For Target Selection In Metabolic Networks," *Bioinformatics* **23** (13), 1616 (2007) [**Times cited: 44**]
24. Sales-Pardo, M, Chan, AOB, Amaral, LAN, Guimera, R, "Evolution Of Protein Families: Is It Possible To Distinguish Between Domains Of Life?," *Gene* **402** (1-2), 81 (2007) [**Times cited: 3**]
23. Guimera, R, Danon, L, Diaz-Guilera, A, Giralt, E, Arenas, A, "The Real Communication Network Behind The Formal Chart: Community Structure In Organizations," *Journal Of Economic Behavior & Organization* **61** (4), 653 (2006) [**Times cited: 33**]
22. Amaral, L, Guimera, R, "Lies, Damned Lies And Statistics," *Nature Physics* **2** (2), 75 (2006) [**Times cited: 26**]
21. Guimera, R, Sales-Pardo, M, "Form Follows Function: The Architecture Of Complex Networks," *Molecular Systems Biology* **2**, 42 (2006) [**Times cited: 10**]
20. Guimera, R, Amaral, L, "Functional Cartography Of Complex Metabolic Networks," *Nature* **433** (7028), 895 (2005) [**Times cited: 2235**]
19. Guimera, R, Mossa, S, Turttschi, A, Amaral, L, "The Worldwide Air Transportation Network: Anomalous Centrality, Community Structure, And Cities' Global Roles," *Proceedings Of The National Academy Of Sciences Of The United States Of America* **102** (22), 7794 (2005) [**Times cited: 1091**]

18. Guimera, R, Uzzi, B, Spiro, J, Amaral, L, "Team Assembly Mechanisms Determine Collaboration Network Structure And Team Performance," *Science* **308** (5722), 697 (2005) [**Times cited: 614**]
17. Guimera, R, Amaral, L, "Cartography Of Complex Networks: Modules And Universal Roles," *Journal Of Statistical Mechanics-Theory And Experiment* , P02001 (2005) [**Times cited: 461**]
16. Stouffer, D, Camacho, J, Guimera, R, Ng, C, Amaral, L, "Quantitative Patterns In The Structure Of Model And Empirical Food Webs," *Ecology* **86** (5), 1301 (2005) [**Times cited: 136**]
15. Sales-Pardo, M, Guimera, R, Moreira, A, Widom, J, Amaral, L, "Mesoscopic Modeling For Nucleic Acid Chain Dynamics," *Physical Review E* **71** (5), 051902 (2005) [**Times cited: 40**]
14. Guimera, R, Amaral, LAN, "Cartography Of Complex Networks: Modules And Universal Roles.," *Journal Of Statistical Mechanics (Online)* **2005** (P02001), nihpa35573 (2005) [**Times cited: 1**]
13. Guimera, R, Sales-Pardo, M, Amaral, L, "Modularity From Fluctuations In Random Graphs And Complex Networks," *Physical Review E* **70** (2), 025101 (2004) [**Times cited: 563**]
12. Guimera, R, Amaral, L, "Modeling The World-Wide Airport Network," *European Physical Journal B* **38** (2), 381 (2004) [**Times cited: 300**]
11. Arenas, A, Danon, L, Diaz-Guilera, A, Gleiser, P, Guimera, R, "Community Analysis In Social Networks," *European Physical Journal B* **38** (2), 373 (2004) [**Times cited: 137**]
10. Arenas, A, Danon, L, Diaz-Guilera, A, Guimera, R, "Local Search With Congestion In Complex Communication Networks," *Computational Science - Iccs 2004, Pt 3, Proceedings* **3038**, 1078 (2004) [**Times cited: 6**]
9. Guimera, R, Danon, L, Diaz-Guilera, A, Giralt, F, Arenas, A, "Self-Similar Community Structure In A Network Of Human Interactions," *Physical Review E* **68** (6), 065103 (2003) [**Times cited: 910**]
8. Arenas, A, Cabrales, A, Diaz-Guilera, A, Guimera, R, Vega-Redondo, F, "Search And Congestion In Complex Networks," *Statistical Mechanics Of Complex Networks* **625**, 175 (2003) [**Times cited: 17**]
7. Bofill, P, Guimera, R, Torras, C, "Comparison Of Simulated Annealing And Mean Field Annealing As Applied To The Generation Of Block Designs," *Neural Networks* **16** (10), 1421 (2003) [**Times cited: 11**]
6. Guimera, R, Diaz-Guilera, A, Vega-Redondo, F, Cabrales, A, Arenas, A, "Optimal Network Topologies For Local Search With Congestion," *Physical Review Letters* **89** (24), 248701 (2002) [**Times cited: 454**]
5. Camacho, J, Guimera, R, Amaral, L, "Robust Patterns In Food Web Structure," *Physical Review Letters* **88** (22), 228102 (2002) [**Times cited: 231**]
4. Guimera, R, Arenas, A, Diaz-Guilera, A, Giralt, F, "Dynamical Properties Of Model Communication Networks," *Physical Review E* **66** (2), 026704 (2002) [**Times cited: 164**]

3. Camacho, J, Guimera, R, Amaral, L, “Analytical Solution Of A Model For Complex Food Webs,” *Physical Review E* **65** (3), 030901 (2002) [**Times cited: 58**]
2. Arenas, A, Diaz-Guilera, A, Guimera, R, “Communication In Networks With Hierarchical Branching,” *Physical Review Letters* **86** (14), 3196 (2001) [**Times cited: 361**]
1. Guimera, R, Arenas, A, Diaz-Guilera, A, “Communication And Optimal Hierarchical Networks,” *Physica A* **299** (1-2), 247 (2001) [**Times cited: 34**]

### Editorial, Invited and Popularization Material

5. Arenas, A, Diaz-Guilera, A, Guimera, R, Sales-Pardo, M “Xarxes complexes: de la cèl·lula al Facebook,” *Revista de Física* **5**, 45–48 (2015)
4. Serrano, MA, Sales-Pardo, M, Alarcon, T, Guimera, R, Sagues, F “Xarxes complexes en biologia cel·lular,” *Revista de Física* **5**, 23–28 (2015)
3. Guimera, R, Sales-Pardo, M “La promesa de las redes metabólicas,” *SEBMM* **186**, 14–16 (2015)
2. Guimera, R, “‘Networks’ is different,” *Front. Gene.* **3**, 186 (2012)
1. Guimera, R, Sales-Pardo, M “Sistemas complejos y el Tribunal Supremo de Estados Unidos,” *Investigación y Ciencia* (Spanish edition of *Scientific American*), September, 10–11 (2012)



### Selected Keynote and Invited Talks and Lectures at International Conferences and Schools

- 2022-Jun Mediterranean School of Complex Networks, Catania, Italy
- 2022-Mar APS March Meeting, Chicago, US
- 2019-Sep Workshop on Higher-order Interaction Networks, Oxford, UK
- 2019-May Critical and Collective Effects in Graphs and Networks 2019, Les Houches, France
- 2019-Mar 10th International Conference on Complex Networks, COMPLENET 19, Tarragona, Catalonia
- 2018-Jul 4th Annual International Conference on Computational Social Science, Chicago, IL, US
- 2016-Oct MARAMI 2016, Cergy-Pontoise, France
- 2016-May MetNet Annual Meeting, Barcelona, Spain
- 2015-Dec Inference on networks: Algorithms, phase transitions, new models and new data, Santa Fe, NM, US
- 2015-Nov 7th International Conference on Information Technologies and Information Society Novo Mesto, Slovenia
- 2014-Mar German Physical Society (DPG) Spring Meeting, Dresden, Germany
- 2014-Mar The 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Madrid, Spain
- 2013-Sep III Summer School on Statistical Physics of Complex and Small Systems, Palma de Mallorca, Spain
- 2013-Jun NetSci 2013 (International School and Conference on Network Science), Copenhagen, Denmark
- 2012-Jun NetSci 2012 (International School and Conference on Network Science), Evanston, IL, US
- 2010-Jun Multi-disciplinary approach of complexity, networks, geosimulations, Lausanne, Switzerland
- 2008-Aug SIAM Life Sciences Conference, Montreal, Canada
- 2007-Dec Structure and Dynamics of Complex Networks, Brasilia, Brazil
- 2007-Oct Central Section meeting of the AMS, Chicago, IL, US
- 2006-Mar APS March Meeting, Baltimore, MD, US
- 2005-Apr SIAM Optimization Conference, Stockholm, Sweden
- 2005-Mar Complex Networks: Evolution and Statistical Properties, Salou, Spain
- 2003-Sep 2nd International Conference on Frontier Science, Pavia, Italy
- 2003-Mar APS March Meeting, Austin, TX, US

### Mentoring

- 2021 Oscar Fajardo-Fontiveros  
PhD (Universitat Rovira i Virgili)  
*Transitions in Bayesian model selection problems: Network-based recommender systems and symbolic regression*

- 2020 Sergio Cobo-Lopez  
PhD (Universitat Rovira i Virgili)  
*Statistical inference in bipartite networks applied to social dilemmas and human microbial systems*
- 2017 Oriol Senan Campos  
PhD (Universitat Rovira i Virgili)  
*Statistical tools for classification, interpretation and prediction of biological data*
- 2016 Toni Vallès Català  
PhD (Universitat Rovira i Virgili)  
*Network inference based on stochastic block models: model extensions, inference approaches and applications*
- 2016 Antonia Godoy Lorite  
PhD (Universitat Rovira i Virgili)  
*Time evolution and predictability of social behavior in techno-social networks*
- 2014 Arnau Gavaldà Miralles  
PhD (Universitat Rovira i Virgili)  
*From individual to collective human activity patterns in decentralized communication networks*
- 2014 Núria Rovira Asenjo  
PhD (Universitat Rovira i Virgili)  
*Complex network approaches to small team analysis: Conflict and gender*

## Funding

- 2020–2023 *Statistical physics for the selection and validation of models for complex data*  
Amount: 102,000 Euro  
Funding body: MINECO (Spain), PID2019-106811GB-C31  
Role: Investigator
- 2021–2023 *Probabilistic modeling to predict the evolution of COVID-19*  
Amount: 298,350 Euro  
Funding body: AGAUR (Government of Catalonia), 2020PANDE00098  
Role: Investigator
- 2020–2021 *Data science of judicial decisions for evidence-based housing policies in Spain*  
Amount: 99,950 Euro  
Funding body: La Caixa Foundation (Spain)  
Role: Co-Principal Investigator
- 2017–2020 *Mecánica estadística para el modelado y la predicción del comportamiento humano*  
Amount: 121,000 Euro (URV node)  
Funding body: MINECO (Spain), FIS2016-78904-C3-1-P  
Role: Principal investigator

- 2016–2017 *Inferencia estadística para el análisis de perturbaciones sistémicas en redes complejas*  
 Amount: 60,000 Euro  
 Funding body: MINECO (Spain), FIS2015-71563-ERC  
 Role: Principal investigator
- 2014–2017 *Statistical mechanics for big data: Acquisition, analysis and modeling*  
 Amount: 36,000 Euro (URV node)  
 Funding body: MINECO (Spain), FIS2013-47532-C3  
 Role: Investigator
- 2012–2016 *Foundational Research on MULTIllevel comPLEX networks and systems*  
 Amount: 336,460 Euro (URV node)  
 Funding body: EU-FP7, FET-Proactive 317532  
 Role: Investigator
- 2011–2014 *Group-based dynamics on complex networks*  
 Amount: 100,000 Euro  
 Funding body: Marie Curie - International Reintegration Grant, CORDIS  
 Role: Principal investigator
- 2011–2016 *Discovery, decomposition, and dynamics of complex networks*  
 Amount: 445,663 USD  
 Funding body: James S McDonnell Foundation (USA)  
 Role: Principal investigator
- 2011–2014 *Inferencia estadística para el descubrimiento y la extracción de características de redes complejas*  
 Amount: 45,000 Euro + Graduate Student salary (4 years)  
 Funding body: MICINN (Spain), FIS2010-18639  
 Role: Principal investigator
- 2008–2011 *Early prediction of the impact of research through large-scale analysis and modeling of citation dynamics*  
 Amount: 400,000 USD  
 Funding body: National Science Foundation (USA), SBE-0830388  
 Role: Co-principal investigator

### Tech transfer agreements

- 2022–2024 *GreenH2Pipes*  
 Amount: 150,000 Euro  
 Company: Enagas  
 Role: Principal Investigator

### Professional Service and Synergistic Activities

- Founder and former Vicepresident (2011-2019) of the Catalan Network for the Study of Complex Systems.

- Associate Editor of PLoS ONE.
- Referee for several scientific journals including PNAS, Nature Communications, Nature Physics, Nature Computational Science, Nature Machine Intelligence, Nature Methods, Science Advances, Physical Review Letters, Physical Review X, Nature Machine Intelligence, Nature Computational Science, Bioinformatics, and The Proceedings of the Royal Society.