

Selected publications of the past 10 years

Monograph

- M. Gatto, R. Casagrandi *Ecosystem Conservation and Management: Models and Application*, Springer, 2022
- A. Rinaldo, M. Gatto, I. Rodriguez-Iturbe *River networks as ecological corridors: species, populations, pathogens* Cambridge University Press, New York, NY, 2020

Disease ecology

- C. Trevisin, J. C. Lemaitre, L. Mari, D. Pasetto, M. Gatto, A. Rinaldo "Epidemicity of cholera spread and the fate of infection control measures" *Journal of the Royal Society Interface*, 19: 20210844 (2022) <https://doi.org/10.1098/rsif.2021.0844>
- L. Mari, R. Casagrandi, E. Bertuzzo, D. Pasetto, S. Miccoli, A. Rinaldo, M. Gatto "The epidemicity index of recurrent SARS-CoV-2 infections" *Nature Communications*, 12:2752 (2021). <https://doi.org/10.1038/s41467-021-22878>
- E. Bertuzzo, L. Mari, D. Pasetto, S. Miccoli, R. Casagrandi, M. Gatto, A. Rinaldo "The geography of COVID-19 spread in Italy and implications for the relaxation of confinement measures" *Nature Communications*, **11**, 4264 (2020). <https://doi.org/10.1038/s41467-020-18050-2>
- M. Gatto, E. Bertuzzo, L. Mari, S. Miccoli, L. Carraro, R. Casagrandi, A. Rinaldo "Spread and dynamics of the COVID-19 epidemic in Italy: Effects of emergency containment measures", *Proceedings of the National Academy of Sciences*, 2020, 117 (19) 10484-10491. www.pnas.org/cgi/doi/10.1073/pnas.2004978117
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- L. Mari, R. Casagrandi, E. Bertuzzo, A. Rinaldo, M. Gatto "Conditions for transient epidemics of waterborne disease in spatially explicit systems", *Royal Society Open Science*, 2019, 6:181517.
- A. Rinaldo, E. Bertuzzo, M. Blokesch, L. Mari, M. Gatto "Modeling key drivers of cholera transmission dynamics provides new perspectives on parasitology", *Trends in Parasitology*, 2017, 33 (8): 587-599, <http://dx.doi.org/10.1016/j.pt.2017.04.002>
- L. Mari, M. Gatto, M. Ciddio, E. D. Dia, S. H. Sokolow, G. De Leo, R. Casagrandi "Big-data-driven modeling unveils country-wide drivers of endemic schistosomiasis", *Scientific Reports*, 7:489, 2017, doi: 10.1038/s41598-017-00493-1
- A. Rinaldo, E. Bertuzzo, L. Mari, L. Righetto, M. Blokesch, M. Gatto, R. Casagrandi, M. Murray, S. Vesenbeckh, I. Rodriguez-Iturbe "Reassessment of the 2010-2011 Haiti cholera outbreak and rainfall-driven multiseason projections" *Proceedings of the National Academy of Sciences*, 2012, 109 (17) 6602-6607, doi:10.1073/pnas.1203333109
- M. Gatto, L. Mari, E. Bertuzzo, R. Casagrandi, L. Righetto, I. Rodriguez-Iturbe, A. Rinaldo "Spatially explicit conditions for waterborne pathogen invasion" *The American Naturalist*, 2013, 182:328-346, DOI: 10.1086/671258
- M. Gatto, L. Mari, E. Bertuzzo, R. Casagrandi, L. Righetto, I. Rodriguez-Iturbe, A. Rinaldo "Generalized reproduction numbers and the prediction of patterns in waterborne disease", *Proceedings of the National Academy of Sciences*, 2012, 109: 19703-19708, doi:10.1073/pnas.1217567109

Management of renewable marine resources

- L. Mari, P. Melià, M. Gatto, R. Casagrandi "Identification of ecological hotspots for the seagrass

- Posidonia oceanica* via metapopulation modeling” *Frontiers in Marine Science*, 8:628976 (2021). doi: 10.3389/fmars.2021.628976
- B. Mokrane, A. Di Franco, A. Calò, L. Mari, J. Claudet, R. Casagrandi, M. Gatto, J. Lloret, C. Sève, P. Guidetti, P. Melià “Extending full protection inside existing marine protected areas or reducing fishing effort outside can reconcile conservation and fisheries goals”, *Journal of Applied Ecology*, 2020, 57: 1948-1957. DOI: 10.1111/1365-2664.13688
- P. Melià, R. Casagrandi, A. Di Franco, P. Guidetti, M. Gatto “Protection reveals density-dependent dynamics in fish populations: a case study in the central Mediterranean”, *PLoS ONE*, 2020, 15(2):e0228604, <https://doi.org/10.1371/journal.pone.0228604>
- D. Bevacqua, P. Melià, M. Schiavina, A. J. Crivelli, G. A. De Leo, M. Gatto "A demographic model for the conservation and management of the European eel: an application to a Mediterranean coastal lagoon", *ICES Journal of Marine Science*, 2019, fsz118, <https://doi.org/10.1093/icesjms/fsz118>
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Network and metapopulation ecology with focus on river networks

- A. Rinaldo, M. Gatto, I. Rodriguez-Iturbe “River networks as ecological corridors: a coherent ecohydrological perspective” *Advances in Water Resources*, 2018 , 112:27-58.
- L. Carraro, L. Mari, M. Gatto, A. Rinaldo, E. Bertuzzo "Spread of proliferative kidney disease in fish along stream networks: a spatial metacommunity framework", *Freshwater Biology*, 2018; 63 (1):114-127, DOI: 10.1111/fwb.12939.
- L. Mari, R. Casagrandi, A. Rinaldo, M. Gatto “A generalized definition of reactivity for ecological systems and the problem of transient species dynamics” *Methods in Ecology and Evolution*, 2017, 8: 1574-1584, doi: 10.1111/2041-210X.12805
- L. Carraro, E. Bertuzzo, L. Mari, I. Fontes, H. Hartikainen, N. Strepparava, H. Schmidt-Posthaus, Th. Wahli, J. Jokela, M. Gatto, A Rinaldo "An integrated field, laboratory and theoretical study of PKD spread in a Swiss prealpine river", *Proceedings of the National Academy of Sciences*, 2017, 114 (45) 11992-11997. <https://doi.org/10.1073/pnas.1713691114>.
- L. Mari, R. Casagrandi, E. Bertuzzo, A. Rinaldo, M. Gatto “Metapopulation persistence and species spread in river networks” *Ecology Letters*, 17 (4):426-434, 2014
- S. Ceola, E. Bertuzzo, L. Mari, G. Botter, I. Hödl, T. J. Battin, M. Gatto, A. Rinaldo “ Light and hydrologic variability as drivers of stream biofilm dynamics in a flume experiment” *Ecohydrology*, 2014, 7:391–400, DOI: 10.1002/eco.1357.
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