

# Andrea Rinaldo

## List of Publications by Citations

**Source:** <https://exaly.com/author-pdf/3615165/andrea-rinaldo-publications-by-citations.pdf>

**Version:** 2024-04-23

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

142  
papers

8,396  
citations

50  
h-index

88  
g-index

150  
ext. papers

10,048  
ext. citations

6.6  
avg, IF

6.32  
L-index

#	Paper	IF	Citations
142	Size and form in efficient transportation networks. <i>Nature</i> , <b>1999</b> , 399, 130-2	50.4	591
141	Spread and dynamics of the COVID-19 epidemic in Italy: Effects of emergency containment measures. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2020</b> , 117, 10484-10491	11.5	590
140	Neutral metacommunity models predict fish diversity patterns in Mississippi-Missouri basin. <i>Nature</i> , <b>2008</b> , 453, 220-2	50.4	266
139	Geomorphological dispersion. <i>Water Resources Research</i> , <b>1991</b> , 27, 513-525	5.4	239
138	Energy dissipation, runoff production, and the three-dimensional structure of river basins. <i>Water Resources Research</i> , <b>1992</b> , 28, 1095-1103	5.4	219
137	Self-organized fractal river networks. <i>Physical Review Letters</i> , <b>1993</b> , 70, 822-825	7.4	211
136	Dendritic connectivity controls biodiversity patterns in experimental metacommunities. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2012</b> , 109, 5761-6	11.5	210
135	Landscape evolution in tidal embayments: Modeling the interplay of erosion, sedimentation, and vegetation dynamics. <i>Journal of Geophysical Research</i> , <b>2007</b> , 112,		202
134	Minimum energy and fractal structures of drainage networks. <i>Water Resources Research</i> , <b>1992</b> , 28, 2183-2195	5.4	187
133	Transport in the hydrologic response: Travel time distributions, soil moisture dynamics, and the old water paradox. <i>Water Resources Research</i> , <b>2010</b> , 46,	5.4	182
132	Catchment residence and travel time distributions: The master equation. <i>Geophysical Research Letters</i> , <b>2011</b> , 38, n/a-n/a	4.9	180
131	Biologically-controlled multiple equilibria of tidal landforms and the fate of the Venice lagoon. <i>Geophysical Research Letters</i> , <b>2007</b> , 34,	4.9	169
130	Scaling laws for river networks. <i>Physical Review E</i> , <b>1996</b> , 53, 1510-1515	2.4	154
129	Catchment travel time distributions and water flow in soils. <i>Water Resources Research</i> , <b>2011</b> , 47,	5.4	152
128	On spatially explicit models of cholera epidemics. <i>Journal of the Royal Society Interface</i> , <b>2010</b> , 7, 321-33	4.1	133
127	Reassessment of the 2010-2011 Haiti cholera outbreak and rainfall-driven multiseason projections. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2012</b> , 109, 6602-7	11.5	132
126	Storage selection functions: A coherent framework for quantifying how catchments store and release water and solutes. <i>Water Resources Research</i> , <b>2015</b> , 51, 4840-4847	5.4	130

125	Fluvial network organization imprints on microbial co-occurrence networks. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 12799-804	11.5	130
124	Resilience and reactivity of global food security. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2015</b> , 112, 6902-7	11.5	128
123	River networks as ecological corridors: A complex systems perspective for integrating hydrologic, geomorphologic, and ecologic dynamics. <i>Water Resources Research</i> , <b>2009</b> , 45,	5.4	119
122	CHANNEL NETWORKS. <i>Annual Review of Earth and Planetary Sciences</i> , <b>1998</b> , 26, 289-327	15.3	117
121	Modelling cholera epidemics: the role of waterways, human mobility and sanitation. <i>Journal of the Royal Society Interface</i> , <b>2012</b> , 9, 376-88	4.1	113
120	Fractal structures as least energy patterns: The case of river networks. <i>Geophysical Research Letters</i> , <b>1992</b> , 19, 889-892	4.9	107
119	Mobile phone data highlights the role of mass gatherings in the spreading of cholera outbreaks. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 6421-6	11.5	106
118	Evolution and selection of river networks: statics, dynamics, and complexity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 2417-24	11.5	100
117	Topology of the fittest transportation network. <i>Physical Review Letters</i> , <b>2000</b> , 84, 4745-8	7.4	99
116	On the space-time evolution of a cholera epidemic. <i>Water Resources Research</i> , <b>2008</b> , 44,	5.4	96
115	Modeling chloride transport using travel time distributions at Plynlimon, Wales. <i>Water Resources Research</i> , <b>2015</b> , 51, 3259-3276	5.4	95
114	A Note on Fractal Channel Networks. <i>Water Resources Research</i> , <b>1991</b> , 27, 3041-3049	5.4	92
113	On landscape self-organization. <i>Journal of Geophysical Research</i> , <b>1994</b> , 99, 11971-11993		86
112	Ecohydrology of Terrestrial Ecosystems. <i>BioScience</i> , <b>2010</b> , 60, 898-907	5.7	85
111	Scaling, Optimality, and Landscape Evolution. <i>Journal of Statistical Physics</i> , <b>2001</b> , 104, 1-48	1.5	79
110	Metapopulation persistence and species spread in river networks. <i>Ecology Letters</i> , <b>2014</b> , 17, 426-34	10	78
109	Complex interaction of dendritic connectivity and hierarchical patch size on biodiversity in river-like landscapes. <i>American Naturalist</i> , <b>2014</b> , 183, 13-25	3.7	74
108	Microbial size spectra from natural and nutrient enriched ecosystems. <i>Limnology and Oceanography</i> , <b>2001</b> , 46, 778-789	4.8	74

107	Geomorphic controls on elevational gradients of species richness. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 1737-42	11.5	73
106	A neutral metapopulation model of biodiversity in river networks. <i>Journal of Theoretical Biology</i> , <b>2007</b> , 245, 351-63	2.3	71
105	Using SAS functions and high-resolution isotope data to unravel travel time distributions in headwater catchments. <i>Water Resources Research</i> , <b>2017</b> , 53, 1864-1878	5.4	70
104	Prediction of the spatial evolution and effects of control measures for the unfolding Haiti cholera outbreak. <i>Geophysical Research Letters</i> , <b>2011</b> , 38, n/a-n/a	4.9	70
103	Estimating species distribution and abundance in river networks using environmental DNA. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2018</b> , 115, 11724-11729	11.5	68
102	Chloride circulation in a lowland catchment and the formulation of transport by travel time distributions. <i>Water Resources Research</i> , <b>2013</b> , 49, 4619-4632	5.4	67
101	Generalized reproduction numbers and the prediction of patterns in waterborne disease. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2012</b> , 109, 19703-8	11.5	66
100	Effects of connectivity and recurrent local disturbances on community structure and population density in experimental metacommunities. <i>PLoS ONE</i> , <b>2011</b> , 6, e19525	3.7	65
99	Sculpting of a Fractal River Basin. <i>Physical Review Letters</i> , <b>1997</b> , 78, 4522-4525	7.4	63
98	Linking water age and solute dynamics in streamflow at the Hubbard Brook Experimental Forest, NH, USA. <i>Water Resources Research</i> , <b>2015</b> , 51, 9256-9272	5.4	60
97	Scaling body size fluctuations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2013</b> , 110, 4646-50	11.5	59
96	The geography of COVID-19 spread in Italy and implications for the relaxation of confinement measures. <i>Nature Communications</i> , <b>2020</b> , 11, 4264	17.4	59
95	Spatial effects on species persistence and implications for biodiversity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 4346-51	11.5	55
94	Geomorphic signatures on Brutsaert base flow recession analysis. <i>Water Resources Research</i> , <b>2013</b> , 49, 5462-5472	5.4	54
93	Self-organized river basin landscapes: Fractal and multifractal characteristics. <i>Water Resources Research</i> , <b>1994</b> , 30, 3531-3539	5.4	53
92	Network allometry. <i>Geophysical Research Letters</i> , <b>2002</b> , 29, 3-1	4.9	46
91	Sample and population exponents of generalized Taylor's law. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2015</b> , 112, 7755-60	11.5	45
90	Kinematics of age mixing in advection-dispersion models. <i>Water Resources Research</i> , <b>2013</b> , 49, 8539-8551	5.4	45

89	Generalized receptor law governs phototaxis in the phytoplankton <i>Euglena gracilis</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2015</b> , 112, 7045-50	11.5	41
88	Field migration rates of tidal meanders recapitulate fluvial morphodynamics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2018</b> , 115, 1463-1468	11.5	41
87	Signatures of sea level changes on tidal geomorphology: Experiments on network incision and retreat. <i>Geophysical Research Letters</i> , <b>2012</b> , 39, n/a-n/a	4.9	40
86	Integrated field, laboratory, and theoretical study of PKD spread in a Swiss prealpine river. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, 11992-11997	11.5	39
85	Biological fluid dynamics of airborne COVID-19 infection. <i>Rendiconti Lincei</i> , <b>2020</b> , 31, 1-33	1.7	39
84	Hydrologic controls on basin-scale distribution of benthic invertebrates. <i>Water Resources Research</i> , <b>2014</b> , 50, 2903-2920	5.4	38
83	Hydrology and density feedbacks control the ecology of intermediate hosts of schistosomiasis across habitats in seasonal climates. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 6427-32	11.5	38
82	Patterns of vegetation biodiversity: the roles of dispersal directionality and river network structure. <i>Journal of Theoretical Biology</i> , <b>2008</b> , 252, 221-9	2.3	36
81	Hydrologic variability affects invertebrate grazing on phototrophic biofilms in stream microcosms. <i>PLoS ONE</i> , <b>2013</b> , 8, e60629	3.7	36
80	River networks as ecological corridors: A coherent ecohydrological perspective. <i>Advances in Water Resources</i> , <b>2018</b> , 112, 27-58	4.7	34
79	Catchment-scale herbicides transport: Theory and application. <i>Advances in Water Resources</i> , <b>2013</b> , 52, 232-242	4.7	34
78	Integration of satellite remote sensing data in ecosystem modelling at local scales: Practices and trends. <i>Methods in Ecology and Evolution</i> , <b>2018</b> , 9, 1810-1821	7.7	33
77	Transport of fluorobenzoate tracers in a vegetated hydrologic control volume: 2. Theoretical inferences and modeling. <i>Water Resources Research</i> , <b>2015</b> , 51, 2793-2806	5.4	33
76	Spatially explicit conditions for waterborne pathogen invasion. <i>American Naturalist</i> , <b>2013</b> , 182, 328-46	3.7	33
75	Assessing the impact of non-pharmaceutical interventions on SARS-CoV-2 transmission in Switzerland. <i>Swiss Medical Weekly</i> , <b>2020</b> , 150, w20295	3.1	33
74	On the probability of extinction of the Haiti cholera epidemic. <i>Stochastic Environmental Research and Risk Assessment</i> , <b>2016</b> , 30, 2043-2055	3.5	31
73	The potential impact of case-area targeted interventions in response to cholera outbreaks: A modeling study. <i>PLoS Medicine</i> , <b>2018</b> , 15, e1002509	11.6	31
72	Statistical mechanics of wind wave-induced erosion in shallow tidal basins: Inferences from the Venice Lagoon. <i>Geophysical Research Letters</i> , <b>2013</b> , 40, 3402-3407	4.9	31

71	Scaling in ecosystems and the linkage of macroecological laws. <i>Physical Review Letters</i> , <b>2007</b> , 98, 068104	7.4	31
70	Analytic probability distributions for snow-dominated streamflow. <i>Water Resources Research</i> , <b>2013</b> , 49, 2701-2713	5.4	30
69	Metapopulation capacity of evolving fluvial landscapes. <i>Water Resources Research</i> , <b>2015</b> , 51, 2696-2706	5.4	30
68	Rainfall as a driver of epidemic cholera: Comparative model assessments of the effect of intra-seasonal precipitation events. <i>Acta Tropica</i> , <b>2019</b> , 190, 235-243	3.2	29
67	A Theoretical Analysis of the Geography of Schistosomiasis in Burkina Faso Highlights the Roles of Human Mobility and Water Resources Development in Disease Transmission. <i>PLoS Neglected Tropical Diseases</i> , <b>2015</b> , 9, e0004127	4.8	28
66	Floquet theory for seasonal environmental forcing of spatially explicit waterborne epidemics. <i>Theoretical Ecology</i> , <b>2014</b> , 7, 351-365	1.6	27
65	Spread of proliferative kidney disease in fish along stream networks: A spatial metacommunity framework. <i>Freshwater Biology</i> , <b>2018</b> , 63, 114-127	3.1	25
64	An epidemiological model for proliferative kidney disease in salmonid populations. <i>Parasites and Vectors</i> , <b>2016</b> , 9, 487	4	25
63	Scale-dependent effects of solar radiation patterns on the snow-dominated hydrologic response. <i>Geophysical Research Letters</i> , <b>2015</b> , 42, 3895-3902	4.9	24
62	Glucose- but not rice-based oral rehydration therapy enhances the production of virulence determinants in the human pathogen <i>Vibrio cholerae</i> . <i>PLoS Neglected Tropical Diseases</i> , <b>2014</b> , 8, e3347	4.8	24
61	Hydroclimatology of dual-peak annual cholera incidence: Insights from a spatially explicit model. <i>Geophysical Research Letters</i> , <b>2012</b> , 39, n/a-n/a	4.9	24
60	River landscapes and optimal channel networks. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2018</b> , 115, 6548-6553	11.5	23
59	The role of aquatic reservoir fluctuations in long-term cholera patterns. <i>Epidemics</i> , <b>2012</b> , 4, 33-42	5.1	23
58	Classification and prediction of river network ephemerality and its relevance for waterborne disease epidemiology. <i>Advances in Water Resources</i> , <b>2017</b> , 110, 263-278	4.7	22
57	Cholera in the Lake Kivu region (DRC): Integrating remote sensing and spatially explicit epidemiological modeling. <i>Water Resources Research</i> , <b>2014</b> , 50, 5624-5637	5.4	22
56	Metabolic principles of river basin organization. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 11751-5	11.5	22
55	Toward catchment hydro-biogeochemical theories. <i>Wiley Interdisciplinary Reviews: Water</i> , <b>2021</b> , 8, e14955	7	22
54	On the predictive ability of mechanistic models for the Haitian cholera epidemic. <i>Journal of the Royal Society Interface</i> , <b>2015</b> , 12, 20140840	4.1	21

53	Modelled effects of prawn aquaculture on poverty alleviation and schistosomiasis control. <i>Nature Sustainability</i> , <b>2020</b> , 2, 611-620	22.1	20
52	Thermodynamics in the hydrologic response: Travel time formulation and application to Alpine catchments. <i>Water Resources Research</i> , <b>2015</b> , 51, 1671-1687	5.4	20
51	Evolution of dispersal in explicitly spatial metacommunities. <i>Journal of Theoretical Biology</i> , <b>2011</b> , 269, 256-65	2.3	20
50	Statistical characterization of spatiotemporal sediment dynamics in the Venice lagoon. <i>Journal of Geophysical Research F: Earth Surface</i> , <b>2016</b> , 121, 1049-1064	3.8	19
49	Velocities, Residence Times, Tracer Breakthroughs in a Vegetated Lysimeter: A Multitracer Experiment. <i>Water Resources Research</i> , <b>2019</b> , 55, 21-33	5.4	19
48	On the role of human mobility in the spread of cholera epidemics: towards an epidemiological movement ecology. <i>Ecohydrology</i> , <b>2012</b> , 5, 531-540	2.5	18
47	Demographic stochasticity and resource autocorrelation control biological invasions in heterogeneous landscapes. <i>Oikos</i> , <b>2017</b> , 126, 1554-1563	4	17
46	Near real-time forecasting for cholera decision making in Haiti after Hurricane Matthew. <i>PLoS Computational Biology</i> , <b>2018</b> , 14, e1006127	5	17
45	Rainfall mediations in the spreading of epidemic cholera. <i>Advances in Water Resources</i> , <b>2013</b> , 60, 34-46	4.7	17
44	Transport of fluorobenzoate tracers in a vegetated hydrologic control volume: 1. Experimental results. <i>Water Resources Research</i> , <b>2015</b> , 51, 2773-2792	5.4	17
43	Evolving biodiversity patterns in changing river networks. <i>Journal of Theoretical Biology</i> , <b>2019</b> , 462, 418-424	4.4	17
42	Conditions for transient epidemics of waterborne disease in spatially explicit systems. <i>Royal Society Open Science</i> , <b>2019</b> , 6, 181517	3.3	16
41	The geomorphometry of endorheic drainage basins: implications for interpreting and modelling their evolution. <i>Earth Surface Processes and Landforms</i> , <b>2013</b> , 38, 1881-1896	3.7	16
40	Modeling Key Drivers of Cholera Transmission Dynamics Provides New Perspectives for Parasitology. <i>Trends in Parasitology</i> , <b>2017</b> , 33, 587-599	6.4	15
39	A generalized definition of reactivity for ecological systems and the problem of transient species dynamics. <i>Methods in Ecology and Evolution</i> , <b>2017</b> , 8, 1574-1584	7.7	15
38	Generation and application of river network analogues for use in ecology and evolution. <i>Ecology and Evolution</i> , <b>2020</b> , 10, 7537-7550	2.8	14
37	Advancing ecohydrology in the 21st century: A convergence of opportunities. <i>Ecohydrology</i> , <b>2020</b> , 13, e2208	2.5	14
36	Epidemicity thresholds for water-borne and water-related diseases. <i>Journal of Theoretical Biology</i> , <b>2018</b> , 447, 126-138	2.3	14

35	Covariations in ecological scaling laws fostered by community dynamics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, 10672-10677	11.5	14
34	River Networks as Ecological Corridors: Species, Populations, Pathogens <b>2020</b> ,		14
33	A minimalist model of extinction and range dynamics of virtual mountain species driven by warming temperatures. <i>PLoS ONE</i> , <b>2019</b> , 14, e0213775	3.7	13
32	Generalized size scaling of metabolic rates based on single-cell measurements with freshwater phytoplankton. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2019</b> , 116, 17323-17329	11.5	11
31	Tree water deficit and dynamic source water partitioning. <i>Hydrological Processes</i> , <b>2021</b> , 35,	3.3	11
30	Achieving coordinated national immunity and cholera elimination in Haiti through vaccination: a modelling study. <i>The Lancet Global Health</i> , <b>2020</b> , 8, e1081-e1089	13.6	10
29	Estimation of streamflow recession parameters: New insights from an analytic streamflow distribution model. <i>Hydrological Processes</i> , <b>2019</b> , 33, 1595-1609	3.3	8
28	Transport and Water Age Dynamics in Soils: A Comparative Study of Spatially Integrated and Spatially Explicit Models. <i>Water Resources Research</i> , <b>2020</b> , 56, no	5.4	8
27	Effects of altered river network connectivity on the distribution of <i>Salmo trutta</i> : Insights from a metapopulation model. <i>Freshwater Biology</i> , <b>2019</b> , 64, 1877-1895	3.1	8
26	Real-time projections of cholera outbreaks through data assimilation and rainfall forecasting. <i>Advances in Water Resources</i> , <b>2017</b> , 108, 345-356	4.7	8
25	Space and time predictions of schistosomiasis snail host population dynamics across hydrologic regimes in Burkina Faso. <i>Geospatial Health</i> , <b>2019</b> , 14,	2.2	8
24	Environmental heterogeneity promotes spatial resilience of phototrophic biofilms in streambeds. <i>Biology Letters</i> , <b>2018</b> , 14,	3.6	8
23	Field study on drainage densities and rescaled width functions in a high-altitude alpine catchment. <i>Hydrological Processes</i> , <b>2016</b> , 30, 2138-2152	3.3	7
22	Tracing and Closing the Water Balance in a Vegetated Lysimeter. <i>Water Resources Research</i> , <b>2021</b> , 57, e2020WR029049	5.4	7
21	The Widened Pipe Model of plant hydraulic evolution. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2021</b> , 118,	11.5	5
20	Dynamic spatio-temporal patterns of metapopulation occupancy in patchy habitats. <i>Royal Society Open Science</i> , <b>2021</b> , 8, 201309	3.3	5
19	An exactly solvable coarse-grained model for species diversity. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2012</b> , 2012, P07017	1.9	4
18	Range of reproduction number estimates for COVID-19 spread. <i>Biochemical and Biophysical Research Communications</i> , <b>2021</b> , 538, 253-258	3.4	4



17	On the probabilistic nature of the species-area relation. <i>Journal of Theoretical Biology</i> , <b>2019</b> , 462, 391-407.	3	3
16	Earth and field observations underpin metapopulation dynamics in complex landscapes: Near-term study on carabids. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2020</b> , 117, 12877-12884	11.5	3
15	Persistence of amphibian metapopulation occupancy in dynamic wetlandscapes. <i>Landscape Ecology</i> , <b>2022</b> , 37, 695	4.3	3
14	Generation and application of river network analogues for use in ecology and evolution		3
13	A Note on the Role of Seasonal Expansions and Contractions of the Flowing Fluvial Network on Metapopulation Persistence. <i>Water Resources Research</i> , <b>2021</b> , 57, e2021WR029813	5.4	3
12	The epidemicity index of recurrent SARS-CoV-2 infections. <i>Nature Communications</i> , <b>2021</b> , 12, 2752	17.4	3
11	Optimizing the spatio-temporal allocation of COVID-19 vaccines: Italy as a case study		3
10	SESTET: A spatially explicit stream temperature model based on equilibrium temperature. <i>Hydrological Processes</i> , <b>2020</b> , 34, 355-369	3.3	2
9	Catchment Drainage Network Scaling Laws Found Experimentally in Overland Flow Morphologies. <i>Geophysical Research Letters</i> , <b>2018</b> , 45, 9614-9622	4.9	2
8	Epidemicity of cholera spread and the fate of infection control measures.. <i>Journal of the Royal Society Interface</i> , <b>2022</b> , 19, 20210844	4.1	1
7	Ecohydrology 2.0. <i>Rendiconti Lincei</i> ,	1.7	1
6	Ecohydrology: a fast moving field. <i>Ecohydrology</i> , <b>2012</b> , 5, 519-519	2.5	
5	Species <b>2020</b> , 47-113		
4	Populations <b>2020</b> , 114-224		
3	Waterborne Disease <b>2020</b> , 225-339		
2	Afterthoughts and Outlook <b>2020</b> , 340-361		
1	The intrusion of ecology into hydrology and morphodynamics. <i>Rendiconti Lincei</i> ,1	1.7	