CURRICULUM VITAE

ANDREA RINALDO
born in Venice (Italy) on 13.09.1954

Professor of Hydrology and Water Resources
Director, Laboratory of Ecohydrology (ECHO)
Ecole Polytechnique Fédérale Lausanne (CH)[1]
(extension granted by the ETH Board until 1.09.2024)

Professor of Civil & Environmental Engineering,
Università di Padova

1. RESEARCH INTERESTS

Transport phenomena in the hydrological cycle. Fractal river basins. Ecohydrology. Stochastic modeling of natural phenomena. Networks in Nature. Ecological size spectra. Covariations of macroecological laws. River networks as ecological corridors for species, populations and pathogens. Spatial epidemiology of waterborne and water-based diseases.

2. EDUCATION:

Ph.D.	1983	Purdue University, West Lafayette (IN, USA), Fluid Mechanics
Dott. Ing. (BS+MS)	1978	Università di Padova, Hydraulic Engineering (110/110 *summa cum laude*)
D.Sc. (*honoris causa*)	2014	Université du Québec-Laval & INRS (CA)

3. ACADEMIC RECORD (excerpts)[2]

FULL PROFESSOR, Italian Academic System, (1985-)
Chair of Hydrology, Professor of Civil & Environmental Engineering, *Università di Trento* (1986–1992)
Director, Department of Civil & Environmental Engineering, *Università di Trento* (1989–1992)
CHAIR OF HYDRAULIC CONSTRUCTIONS, PROFESSOR OF CIVIL & ENVIRONMENTAL ENGINEERING, Dipartimento di Ingegneria Civile e Ambientale, *Università di Padova* (Italy) (1992-)
Director, Istituto di Idraulica G. Poleni, *Università di Padova* (Italy) (1993–1997)
Director, International Centre for Hydrology "Dino Tonini", *Università di Padova* (Italy) (1993–2007)
Visiting Professor & Research Associate, *Massachusetts Institute of Technology* (USA) (1993–2001)
Visiting Professor, *Princeton University* (USA) (2004-2006)
PROFESSOR OF HYDROLOGY & WATER RESOURCES and DIRECTOR, Laboratory of Ecohydrology, *Ecole Polytechnique Fédérale Lausanne* (2008-)
Director, Institute of Environmental Engineering, *Ecole Polytechnique Fédérale Lausanne* (2010-2014)
Senior Adjunct Researcher, EAWAG, Dübendorf (CH) (2011-2016)
FACULTY FELLOW, Hagler Institute for Advanced Studies, Texas A&M University, (2018-2023)
INAUGURAL NEIL ARMSTRONG DISTINGUISHED VISITING PROFESSOR, Purdue University, 2018

4. FELLOWSHIPS/AWARDS/MEDALS

International Prizes/Awards (excerpts):

E. MUNSON AWARD, Purdue University (1982)
P. GATTO RESEARCH AWARD, Accademia Nazionale dei Lincei, Rome (1984)
HYDROLOGICAL SCIENCES AWARD (formerly Horton Award), American Geophysical Union (1999)
FELLOW, American Geophysical Union (2000)

[1] Personal and Laboratory of Ecohydrology webpage at: https://people.epfl.ch/andrea.rinaldo?lang=en

[2] Small caps indicate current appointments

DALTON MEDAL, European Geosciences Union (2005)
ERC ADVANCED GRANT FELLOWSHIP (2008)
BORLAND LECTURE & HYDROLOGY DAYS AWARD, Colorado State University, Fort Collins (2010)
4TH PRINCE SULTAN ABDULAZIZ INTERNATIONAL WATER PRIZE (Creativity), Riyadh (2010)
LUIGI TARTUFARI INTERNATIONAL PRIZE, Geosciences, Accademia Nazionale dei Lincei, Rome (2014)
DISTINGUISHED SCHOLAR MEDAL, Am Soc Agricultural Biological Engineering, New Orleans (2015)
FACULTY FELLOW, Hagler Institute for Advanced Studies, Texas A&M University, (2018-2023)
NEIL ARMSTRONG DISTINGUISHED FACULTY FELLOW, Purdue University (2019)

Academy Memberships (excerpta):

Socio Effettivo, ISTITUTO VENETO DI SCIENZE LETTERE ED ARTI, Venice (1995), Board Member (2017-), Vice-President (2014-)
Socio Effettivo, ACCADEMIA GALILEIANA DI SCIENZE, LETTERE ED ARTI, Padua (2010)
Socio Nazionale, ACCADEMIA NAZIONALE DELLE SCIENZE (detta dei XL), Rome (2014), Vice-President & Board member (2017-)
Socio Effettivo, ACCADEMIA DEI GEORGOFILI, Florence (2012)

Fellow, THE WATER ACADEMY, Oslo (1999)
Foreign Member, ROYAL SWEDISH ACADEMY OF SCIENCES, Stockholm (2006)
Foreign Member, US NATIONAL ACADEMY OF ENGINEERING, Washington (2006)
Foreign Member, US NATIONAL ACADEMY OF SCIENCES, Washington (2012)
Foreign Associate, AMERICAN ACADEMY OF ARTS AND SCIENCES, Cambridge (2018)
Fellow, ACCADEMIA NAZIONALE DEI LINCEI, Rome (2019)

Honorary degrees
DOCTORATE HONORIS CAUSA, INRS & Université du Québec (2014)

5. SUPERVISION OF GRADUATE STUDENTS/POSTDOCTORAL FELLOWS

Supervised and mentored to date more than 70 MS students (48 in Padua, since 2008 22 in Lausanne), 35 Ph.D. students (19 Padua, 16 EPFL since 2008) and 17 postdocs. Former students holding tenured Faculty positions: A Bellin (University of Trento); P Salandin (Padua University), V Fiorotto (Trieste University), M Marani (Duke & Padua University), R Rigon (University of Trento), P D'Odorico (University of California Berkeley), A Fiori (Roma 3 University), A Giacometti (Cà Foscari Venice University), M Pannone (Basilicata University), S Fagherazzi (Boston University), R Stocker (ETH Zürich), G Botter (U Padua), A D'Alpaos (Padua University), E Bertuzzo (Cà Foscari Venice University), S Suweis (U Padua), A. Giometto (Cornell University)

6. KEYNOTE (K) & NAME LECTURES (excerpts)

THE DALTON LECTURE, Wien (2005); THE KOVACS LECTURE, Paris (2006); THE MOORE LECTURE, Charlottesville (2007); THE CARL GUSTAV BERNHARD LECTURE, Royal Swedish Academy of Sciences, Stockholm (2007); THE BOUSSINESQ LECTURE, Amsterdam (2008); THE BORLAND LECTURE, Fort Collins (2010); THE PRINCE ABDULAZIZ WATER LECTURE, Riyadh (2010); 200TH ANNIVERSARY LECTIO MAGISTRALIS, Istituto Veneto di Scienze Lettere ed Arti, Venice (2011); THE WATER INSTITUTE DISTINGUISHED SCHOLAR LECTURE, Gainesville (2012); 418TH ANNIVERSARY LECTIO MAGISTRALIS, Accademia dei Concordi, Rovigo (2013); (K) the RIVERFLOW 2014 Congress, Lausanne (2014); (K) AGU Chapman Conference on *Catchment spatial organization and complex behavior*, Luxembourg (2014); DISTINGUISHED SCHOLAR LECTURE, American Society of Biological and Agricultural Engineering, New Orleans (2015); the HONORIS CAUSA DOCTORATE LECTURE, INRS, Venice (2014); (K) International IRTG Conference *Integrated Hydrosystem Modelling*, Tübingen (2015); the International Workshop on *Living systems: from interaction patterns to critical behavior,* Venice International University at San Servolo, Venice (2016); (K) IECID 2017 *Impact of Environmental Changes on Infectious Diseases,* ICTP Trieste (2017); HAGLER FELLOW DISTINGUISHED SCHOLAR Lecture, Texas A&M University, College Station (2018); (K) IAHR General Congress, Trento (2018); NEIL ARMSTRONG DISTINGUISHED SCHOLAR Lecture, Purdue University, West Lafayette, 2019; THE CHRISTMAS LECTURE, Cà Foscari University, Venice, 2019.

Invited presentations also include: i) a total of 38 Invited Talks at AGU and EGU Meetings (Hydrology, Geomorphology, Nonlinear Geophysics) ii) >200 invited Seminars or Keynote Lectures at international conferences.

7. ORGANISATION OF INTERNATIONAL CONFERENCES (excerpts)

Convener:
Several sessions at AGU and EGU (Ecohydrology, Nonlinear dynamics, Catchment scale transport) (1992-2012)
Summer Schools on *Environmental Dynamics*, Istituto Veneto di Scienze, Lettere ed Arti, Venice, Italy, among which: *Pathways to Environmental Sustainability* (2008) *Climate Forcings and Global Patterns* (2009), *Global Biogeochemical Cycles* (2012), *Discounting and evaluating environmental policies* (2014)
Latsis Symposium on *Ecohydrology*, EPFL (2011) (with Marc Parlange)
Monte Verità Symposium *Thirty years of Groundwater Hydrology*, 2011
Colloquio Linceo on Ecohydrology (2020) (with G. Seminara)

8. OTHER ACADEMIC RESPONSIBILITIES (excerpts)

Academic responsibilities (excerpta): Elected member, Academic Senate, Università di Padova (IT) (1994-1998, 2002 -2008); Director, Doctoral School on Civil & Environmental Engineering Sciences, Università di Padova (IT) (1999-2007); Secretary, Class of Sciences, Istituto Veneto di Scienze, Lettere ed Arti, Venice (IT) (2006-); EPFL Academic Promotions Committee (2009-2011); ENAC Academic Promotions Committee, EPFL (2011-), as Chairman (2012-2014).
Invited Foreign Member of PhD Committees (excerpts): MIT, Wageningen Agricultural University, KTH Stockholm, Princeton University, University of Sidney, Karlsrühe Technical Institute,
Member, International Scientific Committees (excerpts): Zentrum *S. Franscini*, ETHZ (CH); The Bernoulli Society; *SENSE Environmental Sciences* Review Committee (NL); *CCES* Steering Board, ETH, Zurich (CH); Scientific Advisory Board, *Helmholtz-Zentrum für Umweltforschung GmbH* (UFZ), Leipzig (GE); Scientific Committee, *Institute Internationale Eau Environment* (2ie), Ouagadougou (BF); Scientific Advisory Board, Bert Bolin Center, University of Stockholm; Scientific Advisory Board, Università Cà Foscari in Venice;
Member, Award and Medal Committees (excerpta): *Gatto* Award, Accademia Nazionale dei Lincei (2004-2014); AGU *Hydrological Sciences Award* Committee (2003-2005) (as Chairman, 2005); AGU *Horton Medal* Committee (2004-2006); EGU *Dalton Medal* Committee (2005-2007); *AGU Fellows* Union Committee (2005-2010)
Editorial Boards (excerpta): *Advances in Water Resources,* Elsevier (1994-2004)*; Water Resources Research,* American Geophysical Union (2001-2011)*; Rendiconti Lincei* (2006-)*; Proceedings of the US National Academy of Science*, US National Academy of Sciences (2014-)
Editor: *Advances in Water Resources*, Elsevier (2011-2015); *Proceedings of the US National Academy of Sciences* (2015-2017)

9. SCIENTIFIC ACHIEVEMENTS

Author of two research monographs, two essays on science dissemination in Italian and ~300 journal papers (19894 citations with *h*-index of 84 and *i10*-index of 225)[3]. Authored with Ignacio Rodriguez-Iturbe the research monograph *Fractal River basins. Chance and Self-Organization* (Cambridge Univ Press, 2001), considered the standard reference of its field (1843 citations). Among my contributions, most of which is published as first and/or corresponding author, more than 70 papers are cited more than 100 times. I have authored 43 papers published in general science journals: *Nature* (6), *Science* (1) and *PNAS* (36). Among recognitions[4], the elections to the US National Academy of Sciences in the class of *Environmental Sciences and Ecology* (Section 63) and to the Accademia Nazionale dei Lincei (Class of *Mechanics and Applied Mathematics*) are my most coveted. Field, laboratory and theoretical work in water controls on biota is carried out in my *Laboratory of Ecohydrology*, established in 2008 at EPFL, hosting at times up to 20 members (students, postdocs and staff) built around a single-recipient 5-year *ERC Advanced Grant* (2009). The ECHO Lab carries out field work in Haiti, Bangladesh, Burkina Faso and Switzerland. The motivation for the 2011 *Prince Sultan Abdulaziz International Water prize*[5] highlighted my role in the establishment

[3] Source *Google Scholar* (http://scholar.google.ch/citations?user=27F9Y3cAAAAJ&hl=it&oi=ao).

[4] A summary of AR's achievements is in P. GABRIELSEN, A profile of Andrea Rinaldo, *PNAS*, 111, 3900, 2014.

[5] see http://psipw.org/index.php?option=com_content&view=article&id=389&Itemid=225&lang=en

of Ecohydrology as a science in its own right, and my contribution to the development of the field of spatially explicit of waterborne disease spread seen in the coherent framework of the study of water controls on biota. The forthcoming book now in press at *Cambridge University Press* (2020) collects organically such contributions.

10. TOP 10 PUBLICATIONS (by author's choice)[6]

1. Rodriguez-Iturbe, I. and A. RINALDO, *Fractal River Basins. Chance and Self-Organization*, Cambridge Univ. Press, New York, 1997 (1843 citations)
2. Banavar, J.R., A. Maritan, A. RINALDO, Size and form in efficient transportation networks, *Nature*, 399, 130-133, 1999 (794 citations)\
3. RINALDO A, W.E. Dietrich, R. Rigon, G.K. Vogel, I. Rodriguez-Iturbe, Geomorphological signatures of varying climate, *Nature*, 374 (6523), 632-635, 1995 (164 citations, Nature cover)
4. RINALDO, A., I. Rodriguez-Iturbe, R. Rigon, E. Ijjasz-Vasquez, R.L. Bras, Self-organized fractal river networks, *Physical Review Letters*, 70(6), 822-825, 1993 (296 citations)
5. Carrara, F., F. Altermatt, I. Rodriguez-Iturbe, A. RINALDO, Dendritic connectivity controls biodiversity patterns in experimental metacommunities, *Proceedings of the US National Academy of Sciences*, 109, 5761-5766, 2012 (180 citations)
6. RINALDO, A., A. Marani, R. Rigon, Geomorphological Dispersion, *Water Resources Research*, 27(4), 513-525, 1991 (340 citations)
7. RINALDO, A., I. Rodriguez-Iturbe, R. Rigon, E. Ijjasz-Vasquez, R.L. Bras, Minimum energy and fractal structure of drainage networks, *Water Resources Research*, 28(9), 2183-2195, 1992 (240 citations)
8. RINALDO, A., E. Bertuzzo, L. Mari, M. Blokesch et al., Reassessment of the 2010-2011 Haiti cholera outbreak and rainfall-driven multiseason projections, *Proceedings of the US National Academy of Sciences*, 109(17),6602-6607, 2012 (137 citations)
9. RINALDO, A., A. Marani, R. Rigon, Geomorphological dispersion, *Water Resources Research*, 28 (4), 513-525, 1991 (340 citations)
10. Banavar, J.R., J. Damuth, A., Maritan, A. RINALDO, Supply-demand balance and metabolic scaling, *Proceedings of the National Academy of Sciences (PNAS)*, 99, 10506-10509, 2002 (231 citations)

11. RESEARCH PROJECTS (excerpts)

Several Projects funded as PI (in particular from the European Union and the Swiss National Fund), among which:
ERC Advanced Grant RINEC 22761 (2009-2014).
SNF 200021_172578/1 *Optimal control of intervention strategies for waterborne disease epidemics* (2016-2020)
H2020 SC5-16-2014 ECOPOTENTIAL 641762 *Improving future ecosystem benefits through earth observations* (2016-2020)
SNF SINERGIA CRSII5_186422 / 1: *Linking Linking statistical physics, bioengineering, hydrology and fluid mechanics with metabolic theories of ecology across microbial ecosystems: theory and high-throughput experiments* (2019-2023)

12. In the News

See list of press releases in:
https://www.epfl.ch/labs/echo/

A Profile of Andrea Rinaldo (Gabrielsen, P., PNAS, 111(11), 3900-3902, 2014):
https://www.pnas.org/content/111/11/3900

Interviews and public Lectures (excerpta):

http://abouthydrology.blogspot.com/2014/05/acceptance-speech-given-by-andrea.html

https://www.youtube.com/watch?v=z3jJjIbP7uE

[6] Citations as of November 12, 2019

ANDREA RINALDO

List of publications[7]

BOOKS

RINALDO, A., M. Gatto, I. Rodriguez-Iturbe, *River networks as ecological corridors. Species, populations, pathogens*. Cambridge University Press, New York, in press, 2020

RINALDO, A., *Del rugby. Verso una ecologia della pallaovale*, Marsilio, Venice, 2017

RINALDO, A., *Il governo dell'acqua. Ambiente naturale e Ambiente costruito*, Marsilio, Venice, 2011

Rodriguez-Iturbe, I., RINALDO, A., *Fractal river basins. Chance and self-organization*, Cambridge University Press, New York, 2001

JOURNAL PAPERS

2019

[296] Zaoli, S., A. Giometto, E. Marañon, S. Escrig, A. Meibom, , A. Maritan, A. RINALDO, Generalized size-scaling of metabolic rates based on single-cell measurements with freshwater phytoplankton, *Proceedings of the US National Academy of Sciences*, 116 (35), 17323-17329, 2019

[295] Lemaitre, J.F., D. Pasetto, J. Perez-Saez, C. Sciarra, J.F. Wamala, A. RINALDO, Rainfall as a driver of epidemic cholera: comparative model assessment of the effect of intra-seasonal precipitation events, *Acta Tropica*, 190, 235-243, 2019

[294] Muneepeerakul, R., E. Bertuzzo, A, RINALDO, I. Rodriguez-Iturbe, Evolving biodiversity patterns in changing river networks, *Journal of Theoretical Biology,* 462, 418-424, 2019

[293] Benettin, P., P. Queloz, M. Bensimon, J.J, McDonnell, A. RINALDO, Velocities, residence times, tracer breakthroughs in a vegetated lysimeter: a multi-tracer experiment, *Water Resources Research*, 55, 21-33, 2019

[292] Giezendanner, J., E. Bertuzzo, D. Pasetto, A. Guisan, A. RINALDO, A minimalist model of extinction and range dynamics of virtual mountain species driven by warming temperatures, *PLoS ONE*, 14(3), e0213775, 2019

[291] Mari, L., R. Casagrandi, E. Bertuzzo, A. RINALDO, M. Gatto, Conditions for transient epidemics of waterborne disease in spatially explicit systems, *Royal Society Open Science*, 6(5), 181517, 2019

[290] Santos, A.C., M.M. Portela, A. RINALDO, B. Schaefli, Estimation of streamflow recession parameters: New insight from an analytic streamflow distribution model, *Hydrological Processes*, 33(11), 1595-1609, 2019

[289] Hoover. C.M., S. Sokolow, J. Kemp, A.J. Lund, I.J. Jones, T. Higginson, G. Riveau, A. Savaya, S. Coyle, F. Micheli, R. Casagrandi, L. Mari, M. Gatto, A. RINALDO, J. Perez-Saez, J.R. Rohr, A. Sagi, J,V, Remais, G.A. De Leo, Modelled effect of prawn aquaculture on poverty alleviation and schistosomiasis control, *Nature Sustainability*, 2(7), 611-620, 2019

[288] Zaoli, S., A. Giometto, J, Giezendanner, A. Maritan, A. RINALDO, On the probabilistic nature of the species-area relation in ecology, *Journal of Theoretical Biology,* 462, 391-407, 2019

[287] Magliaro, C., A. RINALDO, A. Ahluwalia, Allometric scaling of physiologically relevant organoids, *Scientific Reports*, 9, 11890, 2019

[286] Gonzalez-Ferreras, A., E. Bertuzzo, J. Barquín, L. Carraro, C. Alonso, A. RINALDO, Effects of altered river network connectivity on the distribution of *Salmo trutta*: Insights from metapopulation model, *Freshwater Biology*, 64, 1877-1895, 2019

[285] Carraro, L., M. Toffolon, A. RINALDO, E. Bertuzzo, SESTET: a spatially explicit stream temperature model based on equilibrium temperature, *Hydrological Processes*, 10.1002/hyp.13591, 1-15, 2019

[284] Perez-Saez, J., T. Mande, A. RINALDO, Space and time predictions of schistosomiasis snail host population dynamics across hydrologic regimes in Burkina Faso, *Geospatial Health*, 14 (796), 306-313, 2019

[7] Entries taken from the *Web of Science* and *Google Scholar* on November 8, 2019. Total number of *Web of Science* entries: 322 (Google Scholar: 19,683 citations, *h*-index=84, *i10*-index=225. Since 2014: 9505 citations, *h-index*=55, *i10-index*=189). Total number of Edited Books, Papers in Proceedings, Book Chapters and Abstracts (AGU,EGU, other) unreported here: ~320. Author and coauthor of further four edited books (unreported here).

2018

[283] Carraro, L., L. Mari, M. Gatto, E. Bertuzzo, A. RINALDO, The spread of proliferative kidney disease in fish along stream networks: a spatial metacommunity framework. *Freshwater Biology*, 63(1), 114-127, 2018

[282] Finger, F., E. Bertuzzo, F.J. Luquero, N, Naibei, B. Toure, M. Allan, K. Porten, J. Lessler, A. RINALDO, A.S. Azman, The potential impact of case-area targeted interventions in response to cholera outbreaks: A modeling study, *PLOS Medicine*, 2, e1002509, 2018.

[281] RINALDO, A., M. Gatto, I. Rodriguez-Iturbe, River networks as ecological corridors: a coherent ecohydrological perspective, Advances in Water Resources, 112, 27-58, 2018

[280] Finotello, A., S. Lanzoni, M. Ghinassi, M. Marani, A. RINALDO, A. D'Alpaos, Field migration rates of tidal meanders recapitulate fluvial morphodynamics, *Proceedings of the US National Academy of Sciences* PNAS, 115(7), 1463-1468, 2018

[279] Dos Santos, A.C. M.M. Portela, A. RINALDO, B. Schaefli, Analytical flow duration curves for summer streamflow in Switzerland, *Hydrology and Earth System Sciences*, 22(4), 2377-2389, 2018

[278] Pasetto, D. F. Finger, A. Camacho, F. Grandesso, S. Cohuet, J.C. Lemaitre, A.S. Azman, F.J. Luquero, E. Bertuzzo, A. RINALDO, Near real-time forecasting for cholera decision making in Haiti after Hurricane Matthew, *PLoS Computational Biology*, 14(5), e1006127, 2018

[277] Mari, L., R. Casagrandi, Renato, M. Gatto, Epidemicity thresholds for water-borne and water-related diseases, *Journal of Theoretical Biology*, 447, 126-138, 2018

[276] Lemaitre, J.F., D. Pasetto, J. Perez-Saez, C. Sciarra, J.F. Wamala, A. RINALDO, Rainfall as a driver of epidemic cholera: comparative model assessment of the effect of intra-seasonal precipitation events, *Acta Tropica*, 190, 235-243, 2018

[275] Pasetto, D., S. Arenas-Castro, J. Bustamante, R. Casagrandi, N. Crysoulakis, A.F. Cord, A. Dittrich, C. Domingo-Marimon, G. El Serafy, A. Karnieli, G.A. Kordelas, I. Manakos, L. Mari, A. Monteiro, E. Palazzi, D. Poursanidis, A. RINALDO, S. Terzago, A. Ziemba, G. Ziv, Integration of satellite remote sensing data in ecosystem modelling at local scales: Practices and trends, *Methods in Ecology and Evolution*, 9(8), 1810-1821, 2018

[274] Dzubakova, K., P. Hannes, E. Bertuzzo, C. Huez, M.J. Franca, A. RINALDO, T.J. Battin, Environmental heterogeneity promotes spatial resilience of phototrophic biofilms in streambeds, *Biology Letters*, 14(10), 20180432, 2018

[273] Cheraghi, M., A. RINALDO, G.C. Sander, P. Perona, D.A. Barry, Catchment drainage scaling laws found experimentally in overland flow morphologies, *Geophysical Research Letters*, 45(18), 9614-9622, 2018

[272] Mari. L. R. Casagrandi, A. RINALDO, M. Gatto, Epidemicity thresholds for water-borne and water-related diseases, *Journal of Theoretical Biology*, 447, 126-138, 2018

[271] Zaoli, S., A. Giometto, J, Giezendanner, A. Maritan, A. RINALDO, On the probabilistic nature of the species-area relation in ecology , *Journal of Theoretical Biology,* 462, 391-407, 2018

[270] Carraro, L., H. Hartikainen, J. Jokkela, E. Bertuzzo, A. RINALDO, Estimating species distribution and abundance in river networks using environmental DNA, *Proceedings of the US National Academy of Sciences* PNAS, 115 (46) 11724-1172, 2018

[269] Balister, P., J. Balogh, E. Bertuzzo, B. Bollobas, G. Caldarelli, A. Maritan, R. Mastrandrea, R. Morris, A. RINALDO, River landscapes and optimal channel networks, *Proceedings of the US National Academy of Sciences* PNAS, 115 (26), 6548-6553, 2018

2017

[268] RINALDO, A., E. Bertuzzo, L. Mari, M. Blokesch, M. Gatto, Modeling key drivers of cholera transmission dynamics provides new perspectives on parasitology, *Trends in Parasitology* , 33(8), 587-599, 2017.

[267] Benettin, P., C. Souslby, C. Birkel, D. Tetzlaff, G. Botter, A. RINALDO, Using SAS functions and high-resolution isotope data to unravel travel-time distributions in headwater catchments, *Water Resources Research*, 53(3), 1864-1878, 2017

[266] Mari, L., 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*, 8(11), 1574-1584, 2017

[265] Mari, L., M. Ciddio, R. Casagrandi, J. Perez-Saez, E. Bertuzzo, A. RINALDO, S.H. Sokolow, G. A. De Leo, M. Gatto, Heterogeneity in schistosomiasis transmission dynamics, *Journal of Theoretical Biology*, 432, 87-99, 2017

[264] Benettin, P., S.W. Bailey, A. RINALDO, G.E. Likens, K.J. McGuire, G. Botter, Young water outflows capture dynamics of streamwater age and solute concentration, *Hydrologic Processes*, 31(16), 2982-2986, 2017

[263] Mari, L. R. Casagrandi, E. Bertuzzo, A. RINALDO, M. Gatto, Conditions for transient epidemics of waterborne disease in spatially explicit systems, *Journal of Theoretical Biology*, doi:10.1016/2017.1010.1004, 2017

[262] Perez-Saez, J., T. Mande, N. Ceperley, E. Bertuzzo, L. Mari, M. Gatto, A. RINALDO, Incorporating the ecology of intemediate hosts of schistosomiasis into spatially explicit models of disease transmission in seasonal climates, *Tropical Medicine & International Health*, 22, 19-20, 2017

[261] Strano, E., A. Giometto, H. Shai, E. Bertuzzo, O.J. Mucha, A. RINALDO, The scaling structure of the global road network, *Royal Society Open Science*, 4(10), 170590, 2017

[260] Tejedor, A., A. Longjas, D.A. Edmonds, I. Zalyapin, T. Georgiou, A. RINALDO, E. Foufoula-Georgiou, Entropy and optimality in river deltas, *Proceedings of the US National Academy of Sciences PNAS,* 114(44), 11651-11656, 2017

[259] Perez-Saez, J., A.A. King, A. RINALDO, M. Yunus, A.S.G. Faruque, M. Pascual, Climate-driven endemic cholera is modulated by human mobility in a megacity, *Advances in Water Resources*, 108, 367-376, 2017

[258] Pasetto, D., F. Finger, A. RINALDO, E. Bertuzzo, Real-time projections of cholera outbreaks through data assimilation and rainfall forecasting, *Advances in Water Resources,* 108, 345-356, 2017

[257] Zaoli, S., A. Giometto, A. Maritan, A. RINALDO, Covariations in ecological scaling laws fostered by community dynamics, *Proceedings of the US National Academy of Sciences PNAS,* 114(40), 10672-10677, 2017

[256] Giometto, A., F. Altermatt, A. RINALDO, Demographic stochasticity and resource autocorrelation control biological invasions in heterogeneous landscapes, *Oikos*, 126(11), 1554-1563, 2017

[255] Carraro, L., E. Bertuzzo, L. Mari, I. Fontes, H. Hartikainen, N. Strepparava, H, Schmidt-Posthaus, T. Wahli, J. Jokela, M. Gatto, A. RINALDO, Integrated field, laboratory and theoretical study of PKD spread in a Swiss prealpine river, *Proceedings of the US National Academy of Sciences PNAS,* 114(45), 11992-11997, 2017

[254] Perez-Saez, J., T. Mande, J. Larsen, N. Ceperley, A. RINALDO , Classification and prediction of river network ephemerality and its relevance for waterborne disease epidemiology, *Advances in Water Resources*, 110, 263-278, 2017

2016

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