



Padova, 21 marzo 2023

*Ridurre le disuguaglianze con una equa distribuzione dell'acqua: grazie agli studi di  
Andrea Rinaldo oggi si può*

## **IL “NOBEL DELL'ACQUA” AD ANDREA RINALDO**

**È italiano, ordinario di Costruzioni idrauliche all'Università di Padova, il vincitore  
dello Stockholm Water Prize 2023**

«L'acqua per me è casa: Venezia, dove sono nato e cresciuto. E l'acqua è famiglia: mio nonno aveva un'impresa di costruzioni marittime, mio padre, un fratello, mio suocero e mio cognato sono ingegneri idraulici come me, uno dei miei figli ha un dottorato in Ingegneria costiera. Il mio sogno era (ed è) di aiutare a salvare Venezia, la città che di acqua vive ma di acqua rischia di morire».

Così Andrea Rinaldo racconta la sua passione per gli studi idraulici che, fin dall'alluvione del 1966 che ha vissuto dodicenne a Venezia, hanno guidato il suo percorso accademico e di ricercatore portandolo al massimo riconoscimento mondiale del settore.

**Assegnato oggi 21 marzo 2023 al prof. Andrea Rinaldo lo Stockholm Water Prize, identificato come il “premio Nobel dell'acqua”, essendo caratterizzato da un processo di selezione e una cerimonia di consegna del premio analoghi a quelli dei premi Nobel.**

Dal 1991, lo Stockholm Water Prize viene assegnato a persone e organizzazioni per straordinari risultati legati all'acqua.

Il Premio è assegnato dallo Stockholm International Water Institute (SIWI) in collaborazione con l'Accademia Reale Svedese delle Scienze e presentato da Sua Maestà il Re Carlo XVI Gustavo di Svezia, che è il patrono ufficiale del Premio.

**La Cerimonia di premiazione si terrà nella Sala d'oro della city Hall di Stoccolma alla presenza di Re Carlo XVI il 23 agosto 2023.**

«L'acqua è un bene di tutti – **dice il prof. Andrea Rinaldo** – essenziale: come scrive il poeta W.H Auden “a migliaia sono vissuti senza amore, non uno senz'acqua”. Le mie ricerche e quelle delle persone che in questi anni hanno lavorato con me, avevano e hanno come scopo quello di rendere equa la distribuzione dell'acqua per tutti (*universa universis*) nel contesto di una generale progressiva riduzione delle disuguaglianze sociali ed economiche e di una corretta percezione ecologica dei processi controllati dall'acqua. Nei luoghi dove è concentrato molto del mio lavoro di campo, l'Africa Subsahariana, il Bangladesh, l'isola di Haiti, ma anche nei fiumi alpini in Svizzera, si percepisce chiaramente la necessità di ripensare la giustizia distributiva della gestione delle risorse idriche su scala globale. Quando viaggio nel Sud del mondo per studiare come si propagano le malattie portate dall'acqua, vedo che la distribuzione di acqua sicura è per pochi privilegiati, mentre tutti hanno un telefono cellulare. Così, quando diventa evidente che piani di gestione delle risorse idriche possono causare perdite di biodiversità o portare malattie debilitanti in aree che ne erano prive, è facile valutare l'impatto

economico positivo sull'agricoltura, ma non lo è dare un valore ai servizi degli ecosistemi che perdiamo per sempre, o al vero costo dei ritardi cognitivi causati dalle malattie debilitanti. Tutto questo deve cambiare: oggi abbiamo gli strumenti per poter stimare quantitativamente il vero valore del capitale naturale, essenziale per valutare la vera ricchezza (o povertà) delle Nazioni.

I miei studi sulle reti fluviali sono incentrati su piene, siccità e una giusta distribuzione dell'acqua, guardando alle forme naturali dei paesaggi fluviali come corridoi ecologici per specie, popolazioni e patogeni: una chiave potente per capire come funziona la natura.»

«La gestione sostenibile di un bene essenziale quale è l'acqua, risorsa preziosa e da salvaguardare, in quanto limitata, è una sfida cruciale per la nostra società – **ricorda Daniela Mapelli, rettrice dell'Università di Padova** –. L'Ateneo patavino è quindi orgoglioso del prestigioso riconoscimento attribuito al professor Andrea Rinaldo, con il quale voglio complimentarmi. Un premio che va a suggellare non solo la sua straordinaria competenza accademica, ma anche la forte passione civile che lo ha visto impegnarsi da sempre per un'equa distribuzione dell'acqua, obiettivo fondamentale per perseguire la riduzione delle disuguaglianze economiche e sociali del pianeta».

«La comunicazione di essere risultato il vincitore dello Stockholm Water Prize mi ha raggiunto mentre mi trovavo in viaggio su un treno da Domodossola a Milano. La segreteria generale dello Stockholm International Water Institute mi ha chiamato proprio mentre entravamo nelle molte gallerie di quella linea, dove il telefono non risulta raggiungibile. Ho passato un paio d'ore sulle spine, senza sapere esattamente quale fosse il contenuto della telefonata che si era interrotta. Quando finalmente ho avuto la conferma del Premio, si può immaginare la mia emozione», **racconta Rinaldo**.

## Le Ricerche

La ricerca del prof Andrea Rinaldo ha delineato un quadro ecoidrologico integrato, che fonde studi sperimentali di laboratorio, lavoro empirico di campo e sviluppi teorici che si sono concentrate sui controlli idrologici delle comunità vive (uomo incluso), che hanno contribuito in modo sostanziale alla comprensione dell'origine dinamica di forma e funzione delle reti fluviali. Questa funzione è rilevante per diversi processi fondamentali che controllano l'ecologia spaziale delle specie e la biodiversità nel bacino fluviale, la dinamica di popolazioni e delle "invasioni" biologiche di specie alloctone lungo i corsi d'acqua; e, non ultime, la diffusione e la demografia di malattie trasmesse dall'acqua, come il colera epidemico e la bilanziosi endemica per l'uomo, o le malattie renali, proliferative e letali, per i salmonidi.

Rinaldo ha dimostrato che i processi ecologici dominanti nel paesaggio fluviale sono fortemente vincolati dall'idrologia e dalla matrice per le interazioni delle comunità vive, rendendole di fatto quantificabili. Ha dato un fondamentale contributo alla nascita e allo stabilirsi dell'Ecoidrologia come scienza autonoma a pieno titolo e assolutamente attuale, chiave di volta per la comprensione e la risoluzione di molteplici problemi controllati dalle acque del ciclo idrologico.

## Andrea Rinaldo

Veneziano, classe 1954, Andrea Rinaldo si laurea *cum laude* all'Università di Padova in Ingegneria civile idraulica nel 1978; PhD a Purdue University nel 1983;

**Doctor Honoris causa, Université Québec-Laval e INRS (2010). Dal 1986 è Ordinario di Costruzioni idrauliche, dal 1992 nell'Università di Padova. Oggi è anche** Direttore del Laboratory of Ecohydrology della École Polytechnique Fédérale Lausanne (CH), e Presidente dell'Istituto Veneto di Scienze, Lettere ed Arti di Venezia.



Andrea Rinaldo

Tra gli incarichi: Visiting Professor, Princeton University (2004-2006), Visiting Professor e Research Associate, Massachusetts Institute of Technology, (1992-2002), dal 2019 è Hagler Fellow dell'Institute of Advanced Studies di Texas A&M University e Neal E. Armstrong Distinguished Visiting Professor a Purdue University. Socio di diverse Accademie e Istituti di cultura, fra cui la *Royal Swedish Academy of Sciences* (2006), la *US National Academy of Engineering* (2006), la *US National Academy of Sciences* (2011) e l'*American Academy of Arts and Sciences* (2018), e l'Accademia Nazionale dei Lincei (2016).

**Oltre l'acqua, una grande passione: quella per il rugby.** Tre volte Campione d'Italia con il Petrarca rugby di cui è poi stato Presidente, azzurro d'Italia numero 326 (4 caps e 10 presenze con la Nazionale maggiore dal 1976 al 1978), ha giocato a Padova, nel novembre del 1977, la prima storica partita contro i maestri Neozelandesi, gli All Blacks. Dirigente Nazionale della Federazione Italiana Rugby, è nel Board of Directors della European Professional Club Rugby (EPCR). **Ad Andrea Rinaldo piace ricordare che la sua etica del lavoro è nata proprio sul campo da rugby:** «Il rugby è spietato. Il più preparato vince. È la tua spinta interiore nella preparazione al gesto atletico che fa tutta la differenza. Il risultato sportivo si ottiene come logica e diretta conseguenza del tuo lavoro, e il rugby, sport duro di contatto, educa alla resistenza alla fatica e al potere della determinazione. Questo si trasporta inevitabilmente nell'etica del lavoro dello scienziato».

Numerosissime le pubblicazioni scientifiche (vedi allegato), cui si affiancano alcuni libri, due dei quali nati dalla collaborazione con il collega Ignacio Rodriguez-Iturbe, (Stockholm Water Prize del 2002, mancato di recente), con il quale strinse un forte legame di ricerca e amicizia sin dal primo incontro all'Università di Genova in occasione di una lezione tenuta da Rodriguez-Iturbe dal titolo "Chaos in Rainfall", che lo spinse a cambiare di colpo campo di ricerca, la strada meno battuta che fa tutta la differenza.

I suoi libri sono: *River networks as ecological corridors. Species, population, pathogens*, (Cambridge University Press, New York 2020, con I. Rodriguez-Iturbe e Marino Gatto), e *Fractal river basins. Chance and self-organization* (Cambridge University Press, New York 1997 – second edition in 2001 – con I. Rodriguez-Iturbe). A questi si aggiungono: *Il governo dell'acqua. Ambiente naturale e Ambiente costruito* (Marsilio, Venezia 2009), nella cinquina del Premio Internazionale Galileo per la divulgazione scientifica, e *Del rugby. Verso una ecologia della pallaovale* (Marsilio, Venezia 2017), Premio speciale del CONI nel contesto del Premio Memo Geremia.



ANDREA RINALDO  
born in Venice (IT) on September 13, 1954



Professor of Hydrology and Water Resources, and Director, Laboratory of Ecohydrology, École Polytechnique Fédérale Lausanne (CH)

## EDUCATION/HONORARY DEGREES

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

## ACADEMIC RECORD (excerpts)

FULL PROFESSOR, Italian Academic System, (1985-)  
PROFESSOR OF CIVIL & ENVIRONMENTAL ENGINEERING, Dipartimento di Ingegneria Civile e Ambientale, *Università di Padova* (IT) (1992-)  
VISITING PROFESSOR & RESEARCH ASSOCIATE, Ralph M. Parsons Laboratory, Dept of Civil & Environmental Engineering, *Massachusetts Institute of Technology* (US) (1993–2001)  
VISITING PROFESSOR, Dept of Civil & Environmental Engineering, *Princeton University* (US) (2004-2007)  
PROFESSOR OF HYDROLOGY & WATER RESOURCES, and DIRECTOR, Laboratory of Ecohydrology (ECHO), *École Polytechnique Fédérale Lausanne* (2008-2024) (ETH Board extension, granted to 2024)  
Director, Institute of Environmental Engineering, *École Polytechnique Fédérale Lausanne* (2010-2014, 2022)  
Senior Adjunct Researcher, EAWAG, Dübendorf (CH) (2011-2017)  
FACULTY FELLOW, Hagler Institute for Advanced Studies, Texas A&M University, 2018-2022  
INAUGURAL NEIL ARMSTRONG DISTINGUISHED VISITING FELLOW, Purdue University, 2019-2022

## ACADEMY MEMBERSHIP / AWARDS / MEDALS

### International Prizes/Awards:

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)  
DALTON MEDAL, European Geosciences Union (2005)  
ERC ADVANCED GRANT FELLOWSHIP (2008)  
BORLAND & HYDROLOGY DAYS AWARD, Colorado State University (2010)  
4<sup>TH</sup> 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)  
INAUGURAL NEIL ARMSTRONG DISTINGUISHED VISITING FELLOW, Purdue University, (2019-2021)  
DISTINGUISHED ENGINEERING ALUMNUS AWARD, Purdue University (2021)

### Academy Memberships (excerpts):

Fellow, ISTITUTO VENETO DI SCIENZE LETTERE ED ARTI, Venice (1995) (IVSLA Board, 2007-), President (2021-)  
Fellow, ACCADEMIA GALILEIANA DI SCIENZE, LETTERE ED ARTI, Padova (1999)  
Fellow, ACCADEMIA NAZIONALE DELLE SCIENZE (detta dei XL), Rome (2014) (XL Board, 2017-2020)  
Fellow, ACCADEMIA NAZIONALE DEI LINCEI, Rome (2019)  
Fellow, THE WATER ACADEMY, Oslo (1999)  
International Member, ROYAL SWEDISH ACADEMY OF SCIENCES, Stockholm (2006)  
International Member, US NATIONAL ACADEMY OF ENGINEERING, Washington (2006)  
International Member Member, US NATIONAL ACADEMY OF SCIENCES, Washington (2012)  
Foreign Associate, AMERICAN ACADEMY OF ARTS AND SCIENCES, Cambridge (2018)

## **SUPERVISION OF GRADUATE STUDENTS/POSTDOCTORAL FELLOWS**

Andrea Rinaldo supervised and mentored more than 70 MS students, 41 Ph.D. students, and 14 postdocs. Among former doctoral students and postdocs holding Faculty positions: A Bellin (Trento); P Salandin (Padova), V Fiorotto (U Trieste), M Marani (Duke, Padova), R Rigon (Trento), P D'Odorico (UC Berkeley), A Fiori (Roma 3), A Giacometti (Cà Foscari Venice), M Pannone (Basilicata), S Fagherazzi (Boston U), L Mari (Milan Polytechnic), G Botter (Padova), A D'Alpaos (Padova), E Bertuzzo (Cà Foscari Venice), S Suweis (Padova), A Giometto (Cornell U), B. Schäfli (U Bern), L Carraro (U Zurich)

## **OTHER ACADEMIC RESPONSIBILITIES (excerpts)**

Director, Doctoral School of *Civil & Environmental Engineering Sciences*, Università di Padova (Italy) (1999-2007); several Chair Committee Member, Italian Ministry for University and Research (MIUR) (1986-2007); EPFL Academic Promotions Committee (2009-2011); ENAC Academic Promotions Committee, EPFL (2011-, as Chairman 2011-2014). PhD Committees (besides own Institutions): Massachusetts Institute of Technology, Wageningen Agricultural University, KTH Stockholm, University of Stockholm, Princeton University, University of Sidney, ETHZ. International Scientific Committees (excerpts): *SENSE Environmental Sciences* Review Committee (NL) (2008), *CCES* Steering Board, ETHZ (CH) (2008-2020); Scientific Advisory Board, *Helmholtz-Zentrum für Umweltforschung* (UFZ), Leipzig (GE) (2011-2014); Scientific Advisory Board, Università Cà Foscari Venice (IT) (2014-); Comitato Ambiente, Accademia Nazionale dei Lincei (2012-); Steering and Advisory Committee of the *International Year of Basic Sciences for Sustainable Development*, UNESCO (2022-2023); European Academy Science Advisory Council, (2015, 2022-). Award and Medal Committees: *Gatto Award*, Accademia dei Lincei (2004-2014); *AGU Hydrological Sciences Award* (2003-2005) (Chairman, 2005); *AGU Horton Medal* (2004-2006); *EGU Dalton Medal* (2005-2007); *AGU Fellows Union Committee* (2005-2010); *Sackler Prize Committee*, US National Academy of Sciences, 2018; *Matteucci Medal Committee*, Accademia dei XL (2018-2021); *Datei Medal Committee*, as Chairman (2012-); *AGU Simpson Medal Committee* (2022). Editorial Board: *Advances in Water Resources* (1994-2004); *Water Resources Research* (2001-2013); *Proceedings of the US National Academy of Sciences* (2013-). Editor: *Advances in Water Resources* (2011-15); *PNAS* (2014-2024)

## **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 (2007); THE BOUSSINESQ LECTURE, Amsterdam (2008); THE BORLAND LECTURE, Fort Collins (2010); THE PRINCE ABDULAZIZ WATER LECTURE, Riyadh (2010); 200<sup>TH</sup> ANNIVERSARY LECTIO MAGISTRALIS, Istituto Veneto di Scienze Lettere ed Arti, Venice (2011); THE WATER INSTITUTE DISTINGUISHED SCHOLAR LECTURE, Gainesville (2012); 418<sup>TH</sup> ANNIVERSARY LECTIO MAGISTRALIS, Accademia dei Concordi, Rovigo (2013); (K) International Conference RIVERFLOW, Lausanne (2014); AGU CHAPMAN CONFERENCE on *Catchment spatial organization and complex behavior*, Luxembourg (2014); (K) DISTINGUISHED SCHOLAR LECTURE, American Society of Biological and Agricultural Engineering, New Orleans (2015); the HONORIS CAUSA DOCTORATE LECTURE, INRS, Québec City (2014); (K) International IRTG Conference *Integrated Hydrosystem Modelling*, Tübingen (2015); (K) International Workshop on *Living systems: from interaction patterns to critical behavior*, Venice International University (2016); (K) IECID 2017 *Impact of Environmental Changes on Infectious Diseases*, ICTP Trieste (2017); HAGLER 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); DISTINGUISHED LECTURER SERIES, University of Utrecht (2021); DISTINGUISHED LECTURES, Purdue University (2021); DISTINGUISHED LECTURE SERIES Global Institute for Water Security, Saskatchewan (2021); (K) International conference *Current issues in climate research* (Lincei, Rome, 2021); *CERN Colloquia*, Geneva (2022); (K) *Ignacio Rodríguez-Iturbe Memorial Symposium*, Texas A&M, College Station (2022); (K) *Symposium honoring Prof. Gedeon Dagan on the occasion of his 90<sup>th</sup> Birthday*, Israeli Academy of Sciences and Humanities, Jerusalem (2023).

Invited presentations also include: i) a total of ~50 Invited Talks at AGU and EGU annual Meetings (Hydrology, Geomorphology, Nonlinear Geophysics); ii) >200 invited Seminars.

## **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), *Climate Science* (2022). *Latsis Symposium on Ecohydrology*, EPFL (2011) (with Marc B. Parlange); Monte Verità Symposium *Thirty years of Groundwater Hydrology*, 2011; *Colloquio Linceo on Ecohydrology* (2020) (with G. Seminara). He has been co-convener of several sessions at AGU and EGU annual meetings.

## RESEARCH PROJECTS (excerpts)

Several Projects funded as PI (in particular from the *European Union* and the *Swiss National Funds*), among which:

ERC Advanced Grant RINEC 22761 (2009-2014)

SNF 200021\_172578/1 *Optimal control of intervention strategies for waterborne disease epidemics* (2016-2022)

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)

**IN THE NEWS (excerpts).** See list of press releases in: <https://www.epfl.ch/labs/echo/>

*A Profile of Andrea Rinaldo* (Gabrielsen, P., *Proceedings of the US National Academy of Sciences*, 111(11), 3900-3902, 2014)

<https://www.pnas.org/content/111/11/3900>

Interviews and public Lectures:

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

<https://www.youtube.com/watch?v=z3jIbP7uE>

## SCIENTIFIC ACHIEVEMENTS

Author of four monographs and more than 300 papers in peer-reviewed scientific journals, more than 27,700 citations with *h*-index 101 and *i10*-index 249 (*h*-index 56 and *i10*-index 197 since 2018)<sup>1</sup>. Andrea Rinaldo has authored, with Ignacio Rodriguez-Iturbe, the research monograph *Fractal River basins. Chance and Self-Organization* (published in its 2<sup>nd</sup> edition by Cambridge University Press in 2001, publication **1.** below), considered the standard reference of its field<sup>2</sup>. The recently published book *River networks as ecological corridors. Species, populations, pathogens*, published by Cambridge University Press in 2020 (publication **6.** below, coauthored with M. Gatto and I. Rodriguez-Iturbe) is a coherent follow-up that capitalizes on the insight gained on nature's making of rivers as substrates for ecological interactions. The underlying research has been carried out mostly in his ECHO Lab at EPFL in the past 15 years. The book won the PROSE Award for the Environmental Science category for books appeared in 2020 by the Association of American Publishers (2021). Overall, he authored 52 papers published in general science journals (*Nature*, *Science* and *PNAS*). Among recognitions<sup>3</sup>, his election to the US National Academy of Sciences in the class of Environmental Sciences and Ecology (Section 63) is the most coveted.

Field, laboratory and theoretical work in the general field of water controls on biota is carried out at Rinaldo's *Laboratory of Ecohydrology* (known as the ECHO Lab), established in 2008 at EPFL, built around a single-recipient 5-year ERC Advanced Grant (2009). Experimental work in the wet Lab at EPFL has been ongoing for more than 10 years now, and has had a high impact on the field of water borne diseases (see e.g. publication **7.** below). Rinaldo's Lab also carried out directly a significant amount of field work in Haiti, Bangladesh, Burkina Faso, and in various catchments in Switzerland.

Andrea Rinaldo's research drew together an integrated ecohydrological framework, which blends laboratory, field, and theoretical evidence focused on hydrologic controls on biota, and has contributed substantially to our understanding of the function of river networks as ecological corridors. This function is relevant to a number of key ecological processes that control the spatial ecology of species and biodiversity in the river basin, the population dynamics and biological invasions along waterways, and the spread of waterborne disease. As examples, one counts metapopulation persistence in fluvial ecosystems, metacommunity predictions of fish diversity patterns in large river basins, geomorphic controls imposed by the fluvial landscape on elevational gradients of species' richness, zebra mussel invasions of iconic river networks, and the spread of proliferative kidney disease in salmonid fish; or of devastating chronic (schistosomiasis) or epidemic (cholera) infections in human communities. A well-known theoretical contribution by Andrea Rinaldo is that ecological processes in the fluvial landscape are so constrained by hydrology and by the matrix for ecological interactions (the directional dispersal embedded in fluvial and host/pathogen mobility networks), that predictability by spatially-explicit approaches is warranted. Accounting for these drivers required spatial descriptions that have now produced a broad range of results illustrating the predictive power of the methods and the coherent conceptual framework that produced them. Hard-gained experimental and field work supported the theoretical idea. In the process, Andrea Rinaldo was one of the founders and main contributors to establishing Ecohydrology as a new and now mainstream science. Quite possibly, his Laboratory of Ecohydrology at EPFL was the first of its kind (2008), and currently there exist several of them, worldwide.

<sup>1</sup> Source *Google Scholar* (<http://scholar.google.ch/citations?user=27F9Y3cAAAAJ&hl=it&oi=ao>). Statistics as of January 13, 2023.

<sup>2</sup> see [http://psipw.org/index.php?option=com\\_content&view=article&id=389&Itemid=225&lang=en](http://psipw.org/index.php?option=com_content&view=article&id=389&Itemid=225&lang=en)

<sup>3</sup> A summary of AR's achievements is in P. GABRIELSEN, A profile of Andrea Rinaldo, *PNAS*, 111, 3900, 2014.

The overarching theme of Andrea Rinaldo's work is the investigation on how the physical structure of the hydrologic environments affects biodiversity, species invasions, and waterborne disease spread by embedding the relevant ecology into the core geoscience of river networks. The relation between the geosciences (the study of the form fluvial ecosystems) is explored from the perspective of ecosystems produced by fluvial processes and forms. In the case of the ecosystem services provided by the river basin, his work showed that time is ripe for retooling our decision-making basis. Andrea Rinaldo's work has changed how we understand the interface between the hydrosphere and the biosphere.

Related tools developed in his ECHO Lab also significantly contributed to COVID-19 research (see e.g. publication 8.). This happened serendipitously, owing to the expertise developed on spatially-explicit mathematical models of infectious waterborne and water-based disease spread (in particular epidemic cholera and endemic schistosomiasis, e.g. publication 6.), acquired in the study of waterborne and water-based disease studies which is central to Ecohydrology.

## TEN SIGNIFICANT PUBLICATIONS

1. Rodriguez-Iturbe, I. and A. RINALDO, *Fractal River Basins. Chance and Self-Organization*, Cambridge University Press, New York, 2001 (2175 citations)
2. Banavar, J.R., A. Maritan, A. RINALDO, Size and form in efficient transportation networks, *Nature*, 399, 130-133, 1999 (911 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 (184 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 (345 citations)
5. RINALDO, A., A. Marani, R. Rigon, Geomorphological Dispersion, *Water Resources Research*, 27(4), 513-525, 1991 (397 citations)
6. RINALDO, A., M. Gatto, I. Rodriguez-Iturbe, *River networks as ecological corridors. Species, populations, pathogens*, Cambridge University Press, New York, 2020 (PROSE Award for the Environmental Science category from the Association of American Publishers 2021)
7. Carrara, F., F. Altermatt, I. Rodriguez-Iturbe, A. RINALDO, Dendritic connectivity controls biodiversity patterns in experimental mtacommunities, *Proceedings of the US National Academy of Sciences*, 109, 5761-5766, 2012 (296 citations)
8. Gatto, M., E. Bertuzzo, L. Carraro, L. Mari, S. Miccoli, R. Casagrandi, A. RINALDO, Spread and dynamics of the COVID-19 epidemic in Italy: effects of emergency containment measures, *Proceedings of the US National Academy of Sciences*, 117(19), 10484-10491, 2020 (962 citations, WoS and Scopus Highly Cited Paper)
9. Muneepceerakul, R., E. Bertuzzo, H.J. Lynch, W.F. Fagan, A. RINALDO, I. Rodriguez-Iturbe, Neutral metacommunity model predicts fish diversity patterns in Mississippi-Missouri river basin, *Nature*, 453, 220-229, 2008 (387 citations)
10. Banavar, J.R., J. Damuth, A., Maritan, A. RINALDO, Supply-demand balance and metabolic scaling, *Proceedings of the US National Academy of Sciences*, 99, 10506-10509, 2002 (263 citations)

ANDREA RINALDO

## List of publications<sup>4</sup>

### BOOKS

RINALDO, A., M. Gatto, I. Rodriguez-Iturbe, *River networks as ecological corridors. Species, populations, pathogens*. Cambridge University Press, New York, 2020 (PROSE Award for the Environmental Science category from the Association of American Publishers 2021)

RINALDO, A., *Del rugby. Verso una ecologia della pallaovale*, Marsilio, Venice, 2017 (CONI special prize 2017)

RINALDO, A., *Il governo dell'acqua. Ambiente naturale e Ambiente costruito*, Marsilio, Venice, 2009 (Final Five, Premio internazionale Galileo per la divulgazione scientifica, 2009)

Rodriguez-Iturbe, I., A. RINALDO, *Fractal river basins. Chance and self-organization*, Cambridge University Press, New York, 1997 (2001 2<sup>nd</sup> edition, 2148 citations)

### JOURNAL PAPERS

#### 2022

[334] Levin, SA, A. RINALDO, Ignacio Rodríguez-Iturbe (1942–2022): A review of a pathbreaking academic career combining chance and self-organization, *Proceedings of the US National Academy of Sciences* 119(49), e2217606119, 2021

[333] Benettin, P, Rodriguez, N. B., Sprenger, M., Kim, M., Klaus, J., Harman, C. J., van der Velde, Y., Hrachowitz, M., Botter, G., McGuire, K. J., Kirchner, J. W., RINALDO, A., McDonnell, J.J. Transit time estimation in catchments: Recent developments and future directions. *Water Resources Research*, 58(11), 2022

[332] Cheraghi, M, A. RINALDO, Sander, G.C., P. Perona, A. Cimatoribus, J. Seifeddine, D.A. Barry, Applicability of the landscape evolution model in the absence of rills, *Frontiers in Earth Science*, 10, 872711, 2022

[331] Lemaitre, J.C, D. Pasetto, M. Zanon, E. Bertuzzo, L. Mari, S. Miccoli, R. Casagrandi, M. Gatto, A. RINALDO, Optimal control of the spatial allocation of COVID-19 vaccines: Italy as a case study, *PLoS Computational Biology*, 18(7), e1010237, 2022

[330] Bassi, R, G. Seminara, A. RINALDO, The intrusion of ecology into hydrology and morphodynamics, *Rendiconti Lincei*, 33(2), 213-216, 2022

[329] RINALDO, A, I. Rodriguez-Iturbe, Ecohydrology 2.0, *Rendiconti Lincei*, 33(2), 245-270, 2022

[328] Nehemi MF, P. Benettin, S. Allen, A. RINALDO, L.L. Lehmann, J.J. McDonnell, Phloem water isotopically different to xylem water: Potential causes and implications for ecohydrological tracing, *Ecohydrology*, 15(3), e2417, 2022

[327] Asadollahi, M, Nehemi M.F., J.J. McDonnell, A. RINALDO, P. Benettin, Toward a closure of catchment mass balance: Insight on the missing link from a vegetated lysimeter, *Water Resources Research*, 58, e202WR030698, 2022

[326] Volkov, I., A. Tovo, A. Anfodillo, A. RINALDO, A. Maritan, J. Banavar, Seeing the forest for the trees through metabolic scaling, *PNAS Nexus*, 1(1), pgac008, 2022

[325] Trevisin, C., J.C. Lemaitre, L. Mari, R. Casagrandi, S. Miccoli, M. Gatto, A. RINALDO, *Journal of the Royal Society Interface*, 19 (188), 20210844, 2022

[324] Bertassello, L.E., J.W. Jawitz, E. Bertuzzo, A. RINALDO, J.T. Hoverman, P.S.C. Rao, Persistence of amphibian metapopulation occupancy in dynamic wetlandscapes, *Landscape Ecology*, 37(3), 695-711, 2022

#### 2021

[319] Mari, L., Casagrandi, R., Bertuzzo, E., Pasetto, D., Miccoli, S., RINALDO, A., & Gatto, M., The epidemicity index of recurrent SARS-CoV-2 infections. *Nature Communications*, 12(1) doi:10.1038/s41467-021-22878-7, 2021

[318] Benettin, P., M.F. Furlan, M. Asadollahi, D. Pratt, M. Bensimon, J.J. McDonnell, A. RINALDO, Tracing and closing the water balance in a vegetated lysimeter, *Water Resources Research*, 57(4), e2020WR029049, 2021

---

<sup>4</sup> Entries taken from the *Web of Science* and *Google Scholar*. Total number of *Web of Science* entries: 332. Total number of Edited Books, Papers in Proceedings, Book Chapters and Abstracts (unreported here): ~340. Author and coauthor of four edited books (unreported here).



- [317] Nehemy, M.F., P. Benettin, M. Asadollahi, D. Pratt, A. RINALDO, J.J. McDonnell, Tree deficit and dynamic source water partitioning, *Hydrological processes*, 35(1), e144004, 2021
- [316] Meggiorin, M., G. Passadore, S. Bertoldo, A. Sottani, A. RINALDO, Assessing the long-term sustainability of the groundwater resources in the Bacchiglione basin (Veneto, Italy), *Italian Journal of Groundwater*, 10(1), 35--48, 2021
- [315] Koçillari, L., M. Olson, S. Suweis, R. P. Rocha, A. Lovison, F. Cardin, T. Dawson, A. Echeverría, A. Fajardo, S. Lechthaler, C. Martínez-Pérez, C. R. Marcati, K-F Chung, J. A. Rosell, A. Segovia-Rivas, C. B. Williams, E. Petrone-Mendoza, A. RINALDO, T. Anfodillo, J.R. Banavar, A. Maritan, The widened pipe model of plant hydraulic evolution, *Proceedings of the US National Academy of Sciences*, 118(22), e2100314118 (1—8), 2021
- [314] Mari, L., E. Bertuzzo, D. Pasetto, S. Miccoli, R. Casagrandi, A. RINALDO, M. Gatto, The epidemicity index of recurrent SARS-CoV-2 infections, *Nature Communications*, 12, 2752, 2021
- [313] Pasetto, D., J.C. Lemaître, E. Bertuzzo, M. Gatto, A. RINALDO, Range of reproduction number estimates for COVID-19 spread, *Biochemical and Biophysical Research Communications*, 538, 253-258, 2021
- [312] Serafino, M., G. Cimini, A. Maritan, A. RINALDO, G. Caldarelli, True scale-free networks hidden by finite size effects, *Proceedings of the US National Academy of Sciences*, 118(2), e2013825118, 2021
- [311] Bertassello, L., E. Bertuzzo, G. Botter, J.W. Jawitz, A.F. Aubenaud, J.T. Hoverman, A. RINALDO, P.S.C. Rao, Dynamic spatio-temporal patterns of metapopulation occupancy in patchy habitats, *Royal Society Open Science*, 8(1), 201039, 2021
- [310] Rodriguez-Iturbe, I., Z.J. Chen, A. RINALDO, On the fractal structure of soil moisture fields, *Advances in Water Resources*, 147, 103926, 2021
- [309] Li, L., P. Sullivan, P. Benettin, O. Cirpka, K. Bishop, S. Brantley, J.L.A. Knapp, I. van Meerveld, A. RINALDO, J. Seibert, H. Wen, J.W. Kirchner, Toward catchment hydro-biogeochemical theories, *Wiley Interdisciplinary Reviews – Water*, 8(1), e1495, 2021

## 2020

- [308] Bertuzzo, E., 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
- [307] Seminara, G., B. Carli, S. Forni, A. Mazzino, S. Fuzzi, A. RINALDO, Biological fluid dynamics of airborne COVID-19 infection, *Rendiconti Lincei*, 31(4), 505-537, 2020
- [306] Asadollahi, M., C. Stumpp, A. RINALDO, P. Benettin, Transport and water age dynamics in soils: A Comparative study of spatially integrated and spatially explicit models, *Water Resources Research*, 56, e2019WR025539 <https://doi.org/10.1029/2019WR025539>, 2020
- [305] Carraro, L., E. Bertuzzo, E. Fronhofer, I. Gounand, A. RINALDO, F. Altermatt, Generation and application of river network analogues for use in ecology and evolution, *Ecology and Evolution*, 10(14), 7537-7550, 2020
- [304] Lee, E.C., D.L. Chao, J.C. Lemaître, L. Matrajt, D. Pasetto, J. Perez-Saez, F. Finger, A. RINALDO, J.D. Sugimoto, M.E. Halloran, I.M. Longini, R. Ternier, K. Vissieres, A.S. Azman, J. Lessler, L.C. Ivers, Achieving coordinated national immunity and cholera elimination in Haiti through vaccination, *Lancet Global Health*, 8(8), 10891-10898, <https://doi.org/10.1101/19011072>, 2020
- [303] Giezendanner, J. D. Pasetto, J. Perez-Saez, C. Cerrato R. Viterbi, S. Terzago, E. Palazzi, A. RINALDO, Earth and field observations underpin metapopulation dynamics in complex landscapes: Near-term study on carabids, *Proceedings of the US National Academy of Sciences*, 117(23), 12877--12884, 2020
- [302] Lemaître, J.C., J. Perez-Saez, A.S. Azman, A. RINALDO, J. Fellay, Assessing the impact of non-pharmaceutical interventions on SARS-CoV-2 transmission in Switzerland, *Swiss Medical Weekly*, 50, w20295, 2020
- [301] Guswa, A., D. Tetzlaff, J.S. Selker, D.E. Carlyle-Moses, E.W. Boyer, M. Bruen, I. Creed, N. van de Giesen, D. Grasso, D.M. Hannah, J.E. Hudson, R.B. Jackson, G.G. Katul, T. Kumagai, P. Llorens, K. Nanko, D.E. Pataki, C.A. Peters, A. RINALDO, D.S. Carretero, B. Trifunovic, M. Zalewski, D. Levia, Advancing ecohydrology in the 21st century: A convergence of opportunities, *Ecohydrology*, 13(4), e2208, 2020
- [300] Gatto, M., E. Bertuzzo, L. Carraro, L. Mari, S. Miccoli, R. Casagrandi, A. RINALDO, Spread and dynamics of the COVID-19 epidemic in Italy: effects of emergency containment measures, *Proceedings of the US National Academy of Sciences*, 117(19), 10484-10491, 2020

[299] Carraro, L., M. Toffolon, A. RINALDO, E. Bertuzzo, SESTET: a spatially explicit stream temperature model based in equilibrium temperatures, *Hydrological Processes*, 34(2), 355--369, 2020

## 2019

[298] Perez-Saez, J., T. Mande, D. Zongo, A. RINALDO, Comparative analysis of time-based and quadrat sampling in seasonal population dynamics of intermediate hosts of human schistosomes, *PLoS Neglected Tropical Diseases*, 13(12), e0007938, 2019

[297] Meggiorin, M., G. Passadore, S. Bertoldo, A. Sottani, A. RINALDO, Stochastic analysis of groundwater temperature timeseries for characterizing check dams efficiency: case study on a Managed Aquifer Recharge site (Veneto, Italy), *Acque Sotterranee-Italian Journal of Groundwater*, 8(4), 31-37, 2019

[296] 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

[295] Zaoli, S., A. Giometto, E. Marañón, 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

[294] Munepeerakul, 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. Schaeffli, 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

## 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. Schaeffli, 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. Soulsby, 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 intermediate 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

- [253] RINALDO, A., P. Benettin, C.J. Harman, M. Hracowitz, Y. Van der Velde, K.J. McGuire, E. Bertuzzo, G. Botter, Reply to comment on “Storage selection functions: A coherent framework for quantifying how catchments store and release water and solutes”, *Water Resources Research*, 52(1), 616-618, 2016
- [252] Bertuzzo, E., F. Carrara, L. Mari, F. Altermatt, I. Rodriguez-Iturbe, A. RINALDO, Geomorphic controls on elevational gradients of species richness, *Proceedings of the US National Academy of Sciences*, 113 (7), 1737-1742, 2016
- [251] Perez-Saez, J.F., T. Mande, N. Ceperley, E. Bertuzzo, L. Mari, M. Gatto, A. RINALDO, Hydrology and density feedbacks control the ecology of intermediate hosts of schistosomiasis across habitats in seasonal climates, *Proceedings of the US National Academy of Sciences PNAS*, 113 (23), 6427-6432, 2016
- [250] Finger, F., T. Genolet, L. Mari, G.C. de Magny, N.M. Manga, A. RINALDO, E. Bertuzzo, Mobile phone data highlights the role of mass gatherings in the spreading of cholera outbreaks, *Proceedings of the US National Academy of Sciences PNAS*, 113 (23), 6421-6426, 2016
- [249] Mutzner, R., P. Tarolli, G. Sofia, M.B. Parlange, A. RINALDO, Field study on drainage densities and rescaled width functions in a high-altitude alpine catchment, *Hydrological Processes*, 30(13), 2138-2152, 2016
- [248] Bertuzzo, E., F. Finger, L. Mari, M. Gatto, A. RINALDO, On the probability of extinction of the Haiti cholera epidemic, *Stochastic Environmental Research and Risk*, 30(8), 2043-2055, 2016
- [247] Carraro, L., H. Hartikainen, N. Strepparava, T. Wahli, J. Jokkela, M. Gatto, E. Bertuzzo, A. RINALDO, An epidemiological model for proliferative kidney disease in salmonid populations, *Parasites & Vectors*, 9, 487, 2016
- [246] Benettin, P., C. Soulsby, 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*, 10.1002/2016WR020117, 2016
- [245] 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 Biol.*, doi: 10.1111/fwb.12939, 2016
- [244] Pasetto, D., F. Finger, A. RINALDO, E. Bertuzzo, Real-time projections of cholera outbreaks through data assimilation and rainfall forecasting. *Adv. Water Resour.*, doi: 10.1016/j.advwatres.2016.1010.1004, 2016

## 2015

- [243] Carrara, F., A. Giometto, M. Seymour, A. RINALDO, F. Altermatt, Inferring species interactions in ecological communities: a comparison of methods at different levels of complexity, *Methods in Ecology and Evolution*, 6 (8), 895-906, 2015
- [242] Righetto, L., R.U. Zaman, Z.H. Mahmud, E. Bertuzzo, L. Mari, R. Casagrandi, M. Gatto, S. Islam, A. RINALDO, Detection of *Vibrio cholerae* O1 and O139 in environmental waters of rural Bangladesh: a flow-cytometry-based field trial, *Epidemiology & Infection*, 143 (11), 2330-2342, 2015
- [241] Giometto, A., M. Formentin, A. RINALDO, A. Maritan, Sample and population exponents of generalized Taylor's law, *Proceedings of the US National Academy of Sciences PNAS*, 112 (25), 7755-7760, 2015
- [240] Suweis, S., J.A. Carr, A. Maritan, A. RINALDO, P. D'Odorico, Resilience and reactivity of global food security, *Proceedings of the US National Academy of Sciences PNAS*, 112 (22), 6902-6907, 2015

- [239] Giometto, A., F. Altermatt, A. Maritan, R. Stocker, A. RINALDO, Generalized receptor law governs phototaxis in the phytoplankton *Euglena gracilis*, *Proceedings of the US National Academy of Sciences PNAS*, 112, 7045-7050, 2015
- [238] RINALDO, A., P. Benettin, C.J. Harman, M. Hracowitz, Y. Van der Velde, K.J. McGuire, E. Bertuzzo, G. Botter, Storage selection functions: A coherent framework for quantifying how catchments store and release water and solutes, *Water Resources Research*, 51(6), 4840-4847, 2015
- [237] Comola, F., B. Schaeffli, G. Botter, M. Bavay, A. RINALDO, Scale-dependent effects of solar radiation patterns on the snow-dominated hydrologic response, *Geophysical Research Letters*, 42 (10), 3895-3902, 2015
- [236] Benettin, P., J.W. Kirchner, A. RINALDO, G. Botter, Modeling chloride transport using travel time distributions at Plynlimon, Wales, *Water Resources Research*, 51(5), 3259-3276, 2015
- [235] Carrara, F., A. Giometto, M. Seymour, A. RINALDO, F. Altermatt, Experimental evidence for strong stabilizing forces at high functional diversity of aquatic microbial communities, *Ecology*, 96(5), 1340-1350, 2015
- [234] Bertuzzo, E., I. Rodriguez-Iturbe, A. RINALDO, Metapopulation capacity of evolving fluvial landscapes, *Water Resources Research*, 51(4), 2696-2706, 2015
- [233] Quelo, P., E. Bertuzzo, L. Carraro, G. Botter, F. Miglietta, P.S.C. Rao, A. RINALDO, Transport of fluorobenzoate tracers in a vegetated hydrologic control volume: 1. Experimental results, *Water Resources Research*, 51(4), 2773-2792, 2015
- [233] Quelo, P., E. Bertuzzo, L. Carraro, G. Botter, F. Miglietta, P.S.C. Rao, A. RINALDO, Transport of fluorobenzoate tracers in a vegetated hydrologic control volume: 2. Theoretical inferences and modeling, *Water Resources Research*, 51(4), 2793-2806, 2015
- [232] Del Jesus, M., A. RINALDO, I. Rodriguez-Iturbe, Point rainfall statistics for ecohydrological analyses derived from satellite integrated rainfall measurements, *Water Resources Research*, 51(4), 2974-2985, 2015
- [231] Mari, L., E. Bertuzzo, F. Finger, R. Casagrandi, M. Gatto, A. RINALDO, On the predictive ability of mechanistic models for the Haitian cholera epidemic, *Journal of the Royal Society Interface*, 12(104), 20140840, 2015
- [230] Comola, F., B. Schaeffli, A. RINALDO, M. Lehning, Thermodynamics in the hydrologic response: Travel time formulation and application to Alpine catchments, *Water Resources Research*, 51(3), 1671-1687, 2015
- [229] Passadore, G., A. Sottani, L. Altissimo, A. RINALDO, Using heat as a tracer to characterize streambed water fluxes of the Brenta River (Italy), *Engineering Geology*, 3, 241-244, 2015
- [228] Ciddio, M., Mari, L., M. Gatto, A. RINALDO, R. Casagrandi, The temporal patterns of disease severity and prevalence in schistosomiasis, *Chaos*, 25(3), 036405, 2015
- [227] Foti, R., M. del Jesus, A. RINALDO, I. Rodriguez-iturbe, Demodulation of time series highlights impacts of hydrologic drivers on the Everglades ecosystem, *Ecology*, 8(2), 204-213, 2015
- [226] Perez-Saez, J.F., L. Mari, M. Gatto, E. Bertuzzo, A. RINALDO, Spatial patterns of schistosomiasis in Burkina Faso: relevance of human mobility and water resources development, *Tropical Medicine & International Health*, SI 1, 227-227, 2015
- [225] Perez-Saez, J.F., L. Mari, E. Bertuzzo, R. Casagrandi, S.H. Sokolow, G.A. De Leo, T. Mande, N. Ceperley, J.M. Froehlich, M. Sou, H. Karambiri, H. Yacouba, A. Maiga, M. Gatto, A. RINALDO, A theoretical analysis of the geography of Schistosomiasis in Burkina Faso highlights the roles of human mobility and water resources development in disease transmission, *PLoS Neglected Tropical Diseases*, 9(10), e0004127, 2015
- [224] Benettin, P., S.W. Bailey, J.L. Campbell, M.B. Green, A. RINALDO, G.E. Likens, K. McGuire, G. Botter, Linking water age and solute dynamics in streamflow at the Hubbard Brook Experimental Forest, NH, USA, *Water Resources Research*, 51(11), 9256-9272, 2015
- [223] Benettin, P., A. RINALDO, G. Botter, Tracking residence times in hydrological systems: forward and backward formulations, *Hydrological Processes*, 29(25), 5203-5213, 2015

## 2014

- [222] RINALDO, A., R. Rigon, J.R. Banavar, A. Maritan, A. Rinaldo, Evolution and selection of river networks: statics, dynamics, complexity, *Proceedings of the US National Academy of Sciences PNAS*, 111(7), 2417-2424, 2014
- [221] Banavar, J.R., T. Cooke, A. RINALDO, A. Maritan, Form, function and evolution of living organisms, *Proceedings of the US National Academy of Sciences PNAS*, 111(9), 3332-3337, 2014
- [220] Giometto, A., A. RINALDO, F. Carrara, F. Altermatt, Emerging predictable features on replicated biological invasion fronts, *Proceedings of the US National Academy of Sciences PNAS*, 111(1), 297-301, 2014
- [219] Carrara, F., A. RINALDO, A. Giometto, F. Altermatt, Complex interaction of dendritic connectivity and hierarchical patch size on biodiversity in river-like landscapes, *American Naturalist*, 183(1), 13-25, 2014

- [218] Mari, L., R. Casagrandi, E. Bertuzzo, A. RINALDO, M. Gatto, Metapopulation persistence and species spread in river networks, *Ecology Letters*, 17, 426–434, 2014
- [217] Ceola, S., E. Bertuzzo, L. Mari, G. Botter, I. Hodl, T.J. Battin, M. Gatto, A. RINALDO, Light and hydrologic variability as drivers of stream biofilm dynamics in a flume experiment, *Ecohydrology*, 17(4), 426-434, 2014
- [216] Ceola S., E. Bertuzzo, L. Mari, G. Botter, I. Hodl, T.J. Battin, M. Gatto, A. RINALDO, Hydrologic controls on basin-scale distributions of benthic invertebrates, *Water Resources Research*, 50(4), 2903-2920, 2014
- [215] Hodl, I., L. Mari, E. Bertuzzo, S. Suweis, K. Besemer, A. RINALDO, T.J. Battin, Biophysical controls on cluster dynamics and architectural differentiation of microbial biofilms in contrasting flow environments, *Environmental Microbiology*, 16(3), 802-812, 2014
- [214] Knox, A., E. Bertuzzo, L. Mari, D. Odermatt, E. Verrecchia, A. RINALDO, Optimizing a remotely sensed proxy for plankton biomass in Lake Kivu, *International Journal of Remote Sensing*, 35(13), 5219-5238, 2014
- [213] Finger, F., A. Knox, E. Bertuzzo, L. Mari, D. Bompangu, M. Gatto, I. Rodriguez-Iturbe, A. RINALDO, Cholera in the lake Kivu region (DRC): Integrating remote sensing and spatially explicit epidemiological modeling, *Water Resources Research*, WR015521, 5624-5637, 2014
- [212] Widder, S., K. Besemer, G.A. Singer, S. Ceola, E. Bertuzzo, C. Quince, W.T. Sloan, A. RINALDO, T.J. Battin, Fluvial network organization imprints on microbial co-occurrence networks, *Proceedings of the US National Academy of Sciences PNAS*, 11(35) 12799-12804, 2014
- [211] Kuehn, J., F. Finger, E. Bertuzzo, S. Bourgeaud, M. Gatto, A. RINALDO, M. Blokesch, Glucose- but not rice-based oral rehydration therapy enhances the production of virulence determinants in the human pathogen *Vibrio cholerae*, *PLoS Neglected Tropical Diseases*, 8 (12), e3347, 2014
- [210] Rossel, F., J. Gironas, A. Mejia, A. RINALDO, F. Rodriguez, Spatial characterization of catchment dispersion mechanisms in an urban context, *Advances in Water Resources*, 74, 290-301, 2014
- [209] Mari, L., R. Casagrandi, E. Bertuzzo, A. RINALDO, M. Gatto, Floquet theory for seasonal environmental forcing of spatially explicit waterborne epidemics, *Theoretical Ecology*, 7 (4), 351-365, 2014
- [208] Schaepli, B., L. Nicotina, C. Imfeld, E. Bertuzzo, A. RINALDO, SEHR-ECHO v1.0: A spatially explicit response model for ecohydrologic applications, *Geoscientific Model Development*, 7(6), 2733-2746, 2014

## 2013

- [207] Gatto, M., L. Mari, E. Bertuzzo, L. Righetto, R. Casagrandi, I. Rodriguez-Iturbe, A. RINALDO, Spatially explicit conditions for waterborne pathogen invasion, *American Naturalist*, 182(3), 328-346, 2013.
- [206] Botter, G., S. Basso, I. Rodriguez-Iturbe, A. RINALDO, Resilience of river flow regimes, *Proceedings of the US National Academy of Sciences PNAS*, 110(32), 12925-12030, 2013.
- [205] Righetto, L., E. Bertuzzo, L. Mari, R. Casagrandi, M. Gatto, A. RINALDO, Rainfall mediations in the spreading of epidemic cholera, *Advances in Water Resources*, 60, 34-46, 2013.
- [204] Schaepli, B., A. RINALDO, G. Botter, Analytic probability distributions for snow-dominated streamflow, *Water Resources Research*, 49(5), 2701-2713, 2013.
- [203] Dorsatz, J.M., J. Gironas, C. Escarriaza, A. RINALDO, The geomorphometry of endorheic drainage basins: implications for modelling their evolution, *Earth Surface Processes and Landforms*, 38(15), 1881-1896, 2013.
- [202] Tobin, C., B. Schaepli, L. Nicotina, A. RINALDO, Improving the degree-day method for sub-daily melt simulations with physically-based diurnal variations, *Advances in Water Resources*, 55, 149-164, 2013.
- [201] Foti, R., M. del Jesus, A. RINALDO, I. Rodriguez-Iturbe, Signs of critical transition in the Everglades wetlands in response to anthropogenic changes, *Proceedings US National Academy of Sciences PNAS*, 110(6), 6296-6300, 2013.
- [200] Ceola, S., I. Hoedl, M. Adboller, G. Singer, E. Bertuzzo, T. Battin, A. RINALDO, Hydrologic variability affects invertebrate grazing on phototrophic biofilms in stream microcosms, *PLoS One*, 8(4), e60629, 2013.
- [199] Giometto, A., F. Altermatt, F. Carrara, A. RINALDO, Scaling body size fluctuations, *Proceedings of the US National Academy of Sciences PNAS*, 110(2), 4646-4650, 2013.
- [198] Suweis, S., A. RINALDO, A. Maritan, P. D'Odorico, Water-controlled wealth of nations, *Proceedings of the US National Academy of Sciences PNAS*, 110(11), 4230-4233, 2013.
- [197] Schaepli, B. A. RINALDO, G. Botter, Analytic probability distributions for snow-dominated streamflow, *Water Resources Research*, 49(5), 2701-2713, 2013.
- [196] Mutzner, R., E. Bertuzzo, P. Tarolli, S. Weijs, L. Nicotina, S. Ceola, N. Tomasic, I. Rodriguez-Iturbe, M.B. Parlange, A. RINALDO, Geomorphic signatures on Brutsaert base flow recession analysis, *Water Resources Research*, doi: 10.1002/wrcr.20417, 2013.

- [195] Passalacqua, P., C. Paola, S. Lanzoni, A. RINALDO, Geomorphic signatures of deltaic processes and vegetation: The Ganges-Brahmaputra-Jamuna case study, *Journal of Geophysical Research: Earth Surface*, 118(3), 1838-1849, 2013.
- [194] D'Alpaos, A., L. Carniello, A. RINALDO, Statistical mechanics of wind wave induced erosion in shallow tidal basins: inferences from the Venice lagoon, *Geophysical Research Letters*, 40(13), 3402-3407, 2013.
- [193] Hoedl, I., L. Mari, E. Bertuzzo, S. Suweis, K. Besemer, A. RINALDO, T. Battin, Biophysical controls on cluster dynamics and architectural differentiation of microbial biofilms in contrasting flow environments, *Environmental Microbiology*, doi:10.1111/1462-2920.12205, 2013.
- [192] Bertuzzo, E., M. Thomet, G. Botter, A. RINALDO, Catchment-scale herbicide transport : Theory and application, *Advances in Water Resources*, 52, 232-242, 2013.
- [191] Barry, A.B., G.G. Katul, C.T. Miller, A. Rinaldo, Advances in Water Resources : 35th Anniversary Issue Preface, *Advances in Water Resources*, 51, 1-2, 2013.
- [190] Konar, M., M.J. Todd, R. Muneeppeerakul, A. Rinaldo, I. Rodriguez-Iturbe, Hydrology as a driver of biodiversity : Controls on carrying capacity, niche formation, and dispersal, *Adv. Water Resour.*, 51, 317-325, 2013.
- [189] Benettin, P., Y. Van der Velde, S.E.A.T.M. van der Zee, A. RINALDO, G. Botter, Chloride circulation in a lowland catchment and the formulation of transport by travel time distributions, *Water Resour. Res.*, 49(8), 4619-4632, 2013.
- [188] Benettin, P., A. RINALDO, G. Botter, Kinematics of age mixing in advection-dispersion models, *Water Resources Research*, 49(12), 8539-8551, 2013

## 2012

- [187] Konar, M., C. Dalin, N. Hanasaki, A. RINALDO, I. Rodriguez-Iturbe, Temporal dynamics of blue and green virtual water trade networks, *Water Resources Research*, 48, W07509, 2012.
- [186] Suweis, S., A. RINALDO, A. Maritan, An exactly solvable coarse-grained model for species diversity *Journal of Statistical Mechanics - Theory and Experiment*, P07017, 2012.
- [185] Zanardo, S., N. B. Basu, G. Botter, A. RINALDO, P.S.C. Rao, Correction to : Dominant controls on pesticide transport from tile to catchment scale: Lessons from a minimalist model, *Water Resources Research*, 48, doi : 10.1029/2012WR012775, 2012.
- [184] Stefanon, L., L. Carniello, A. D'Alpaos, A. RINALDO, Signatures of sea level changes on tidal geomorphology: Experiments on network incision and retreat, *Geophysical Research Letters*, 39, L12402, 2012
- [183] Todd, M. J., R. Muneeppeerakul, F. Miralles-Wilhelm, A. RINALDO, I. Rodriguez-Iturbe, Possible climate change impacts on the hydrological and vegetative character of Everglades National Park, Florida, *Ecohydrology*, 5(3), 326-336, 2012.
- [182] Passadore, G., M. Monego, L. Altissimo, A. Sottani, M. Putti, A. RINALDO, Alternative conceptual models and the robustness of groundwater management scenarios in the multi-aquifer system of the Central Veneto Basin, Italy, *Hydrogeology Journal*, 20(3), 419-433, 2012.
- [182] Zanardo, S., N.B. Basu, G. Botter, A. RINALDO, P.S.C. Rao, Dominant controls on pesticide transport from tile to catchment scale: Lessons from a minimalist model, *Water Resources Research*, 48, W04525, 2012.
- [181] RINALDO, A., E. Bertuzzo, L. Mari, L. Righetto, M. Blokesch, M. Gatto, R. Casagrandi, M. Murray, S. M. Vesenbeckh, I. Rodriguez-Iturbe, Reassessment of the 2010-2011 Haiti cholera outbreak and rainfall-driven multiseason projections, *Proceedings of The US National Academy of Sciences PNAS*, 109(17), 6602-6607, 2012.
- [180] Dalin, C., M. Konar, N. Hanasaki, A. RINALDO, I. Rodriguez-Iturbe, Evolution of the global virtual water trade network, *Proceedings of the US National Academy of Sciences PNAS*, 109(16), 5989-5994, 2012.
- [179] 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 PNAS*, 109(15), 5761-5766, 2012.
- [178] Bertuzzo, E., L. Mari, L. Righetto, M. Gatto, R. Casagrandi, I. Rodriguez-Iturbe, A. RINALDO, Hydroclimatology of dual-peak annual cholera incidence: Insights from spatially explicit model, *Geophysical Research Letters*, 39, L05403, 2012.
- [177] Righetto, L., R. Casagrandi, E. Bertuzzo, L. Mari, M. Gatto, I. Rodriguez-Iturbe, A. RINALDO, The role of aquatic reservoir fluctuations in long-term cholera patterns, *Epidemics*, 4(1), 33-42, 2012.
- [176] Mari, L., E. Bertuzzo, L. Righetto, R. Casagrandi, M. Gatto, I. Rodriguez-Iturbe, A. RINALDO, Modelling cholera epidemics: the role of waterways, human mobility and sanitation, *Journal of the Royal Society Interface*, 9(67), 376-388, 2012.

- [175] Del Jesus, M., R. Foti, A. RINALDO, I. Rodriguez-Iturbe, Maximum entropy production, carbon assimilation and the spatial organization of vegetation in river basins, *Proceedings of The US National Academy of Sciences PNAS*, 109(51), 20837-20841, 2012.
- [174] Foti, R. M. del Jesus, A. RINALDO, I. Rodriguez-Iturbe, Hydroperiod regime controls the organization of plant species in wetlands, *Proceedings of The US National Academy of Sciences PNAS*, 109(48), 19596-19600, 2012.
- [173] Gatto, M., L. Mari, E. Bertuzzo, L. Righetto, R. Casagrandi, I. Rodriguez-Iturbe, A. RINALDO, Generalized reproduction numbers and the prediction of patterns in waterborne disease, *Proceedings of The US National Academy of Sciences PNAS*, 109(48), 19703-19708, 2012.
- [172] Tobin, C., A. RINALDO, B. Schaeffli, Snowfall limit forecasts and hydrologic modelling, *Journal of Hydrometeorology*, 13(5), 1507-1519, 2012.
- [171] Mari, L., E. Bertuzzo, L. Righetto, R. Casagrandi, I. Rodriguez-Iturbe, M. Gatto, A. RINALDO, On the role of human mobility in the spread of cholera epidemics : towards an epidemiological movement ecology, *Ecobydrology*, 5(5), 531-540, 2012.
- [170] Suweis, S., E. Bertuzzo, L. Mari, A. Maritan, A. RINALDO, On species persistence-time distributions, *Journal of Theoretical Biology*, 303, 15-24, 2012.

## 2011

- [169] Muneeppeerakul R., S. Azaele, S.A. Levin, A. RINALDO, I. Rodriguez-Iturbe, Evolution of dispersal in explicitly spatial metacommunities, *Journal of Theoretical Biology*, 269(1), 256-265, 2011
- [168] Righetto, L., E. Bertuzzo, L. Mari, M. Gatto, R. Casagrande, I. Rodriguez-Iturbe, A. RINALDO, Modelling human movement in cholera spreading along fluvial systems, *Ecobydrology*, 4(1), 49-55, 2011
- [167] Bertuzzo, E., L. Mari, L. Righetto, M. Blokesch, M. Gatto, R. Casagrandi, I. Rodriguez-Iturbe, A. RINALDO, Prediction of the spatial evolution and effects of control measures for the unfolding Haiti cholera outbreak, *Geophysical Research Letters*, 38, L06403, 2011
- [166] Bertuzzo, E., S. Suweis, L. Mari, A. Maritan, I. Rodriguez-Iturbe, A. RINALDO, Spatial effects on species persistence and implications for biodiversity, *Proceedings of the National Academy of Sciences USA (PNAS)*, 108(11), 4346-4351, 2011
- [165] Mari, L., E. Bertuzzo, M. Gatto, R. Casagrandi, S.A. Levin, I. Rodriguez-Iturbe, A. RINALDO, Hydrologic controls and anthropogenic drivers of the zebra mussel invasion of the Mississippi-Missouri river system, *Water Resources Research*, 47, W03523, 2011
- [164] Suweis, S., M. Konar, C. Dalin, N. Hanasaki, A. RINALDO, I. Rodriguez-Iturbe, Structure and controls of the global virtual water trade network, *Geophysical Research Letters*, 38, L08405, 2011
- [163] Tobin, C., L. Nicotina, M.B. Parlange, A. Berne, A. RINALDO, Improved interpolation of meteorological forcings for hydrologic applications in a Swiss Alpine region, *Journal of Hydrology*, 401(1-2), 77-89, 2011
- [162] Altermatt, F., A. Bieger, F. Carrara, A. RINALDO, M. Holyoak, Effects of Connectivity and Recurrent Local Disturbances on Community Structure and Population Density in Experimental Metacommunities, *PLOS One*, 64, e19525, 2011
- [161] Nicotina, L., D.R. Tarboton, T.K. Tesfa, A. RINALDO, Hydrologic controls on equilibrium soil depths , *Water Resources Research*, 47, W04517, 2011
- [160] Konar, M., S. Suweis, C. Dalin, N. Hanasaki, A. RINALDO, I. Rodriguez-Iturbe, Water for food: The global virtual water trade network, *Water Resources Research*, 47, W05520, 2011
- [159] Botter, G., E. Bertuzzo, A. RINALDO, Catchment residence and travel time distributions: the Master Equation, *Geophysical Research Letters*, 38, L11403, 2011
- [158] Suweis, S., A. Porporato, A. Maritan, A. RINALDO, Prescription-induced jump distribution in multiplicative Poisson processes, *Physical Review E*, 83, 061119, 2011
- [157] Rodriguez-Iturbe, I., K. Caylor, A. RINALDO, Metabolic principles of river basin organization, *Proceedings of the National Academy of Sciences USA (PNAS)*, doi: 10.1073/pnas.1107561108, 2011
- [156] RINALDO, A., K.J. Beven, E. Bertuzzo, L. Nicotina, J. Davies, A. Fiori, D. Russo, G. Botter, Catchment travel time distributions and water flow in soils, *Water Resources Research*, 47, W07537, 2011
- [155] Mari, L., E. Bertuzzo, L. Righetto, R. Casagrandi, M. Gatto, I. Rodriguez-Iturbe, A. RINALDO, Modelling cholera epidemics: the role of waterways, human mobility and sanitation, *Journal of the Royal Society Interface*, doi:10.1098/rsif.2011.0304, 1-13, 2011
- [154] Shah, S.H.H., Vervoort, R.W., Suweis, S., Guswa, A.J., A. RINALDO, S.E.A.T.M. Van der Zee, Stochastic modeling of salt accumulation in the root zone due to capillary flux to brackish groundwater, *Water Resources Research*, 47, W09506, 2011



- [153] RINALDO, A., M. Blokesch, E. Bertuzzo, L. Mari, L. Righetto, M. Nurray, M. Gatto, R. Casagrandi, I. Rodriguez-Iturbe, A transmission model of the 2010 Cholera epidemic in Haiti, *Annals of Internal Medicine*, 155 (6), 403-404, 2011.
- [152] Muneeppeerakul, C.P., R. Muneeppeerakul, F. Miralles-Wilhelm, A. RINALDO, I. Rodriguez-Iturbe, Dynamics of wetland vegetation under multiple stresses: a case study of changes in sawgrass trait, structure and productivity under coupled plant-soil-microbe dynamics, *Ecohydrology*, 4(6), 757-790, 2012.

## 2010

- [151] Azaele, S. A. Maritan, E. Bertuzzo, I. Rodriguez-Iturbe, A. RINALDO, Stochastic Dynamics of Cholera Epidemics, *Physical Review E*, 81(5), 051901, 2010.
- [150] Righetto, L., E. Bertuzzo, R. Casagrandi, M. Gatto, I. Rodriguez-Iturbe, A. RINALDO, Modeling human movement in cholera spreading along fluvial systems, *Ecohydrology*, 1, 117-123, 2010.
- [149] Todd, J., D. Pumo, S. Azaele, F. Miralles-Wilhelm, A. RINALDO, I. Rodriguez-Iturbe, Hydrological drivers of wetland vegetation community distribution within Everglades National Park, Florida, *Advances in Water Resources*, 33(10), 1279-1289, 2010.
- [148] Ceola, S., G. Botter, E. Bertuzzo, A. Porporato, I. Rodriguez-Iturbe, A. RINALDO, Comparative study of ecohydrological streamflow probability distributions, *Water Resources Research*, 46, W09502, 2010
- [147] Botter, G. N.B. Basu, S. Zanardo, P.S.C. Rao, A. RINALDO, Stochastic modeling of nutrient losses in streams: interactions of climatic, hydrologic and biogeochemical controls, *Water Resources Research*, 46, W08509, 2010.
- [146] Suweis, S., S. Van der Zee, A. Maritan, A. RINALDO, A. Porporato, Stochastic modelling of soil salinity, *Geophysical Research Letters*, 37, L07404, 2010.
- [145] Lovison, A., G.M. Manzini, A. Maritan, M. Putti, A. RINALDO, Spanning tracer routes over modular networks and general scaling degree distributions, *Physical Review E*, 81(3), 036105, 2010
- [144] Botter, G., S. Basso, A. Porporato, I. Rodriguez-Iturbe, A. RINALDO, Natural streamflow regime alterations: the damming of the Piave river basin (Italy), *Water Resources Research*, 46, W06522, 2010.
- [143] Botter, G., E. Bertuzzo, A. RINALDO, Transport in the hydrologic response: travel time distributions, soil moisture dynamics and the old water paradox, *Water Resources Research*, 46, W03514, 2010
- [142] Suweis, S., E. Bertuzzo, G. Botter, A. Porporato, I. Rodriguez-Iturbe, A. RINALDO, The impact of stochasticity in the storage-discharge relation on streamflow distributions, *Water Resources Research*, 46, W03517, 2010
- [141] Azaele, S., R. Muneeppeerakul, A. RINALDO, I. Rodriguez-Iturbe, Inferring plant ecosystem organization from species occurrences, *Journal of Theoretical Biology*, 262, 323-329, 2010
- [140] D'Alpaos, A., S. Lanzoni, M. Marani, A. RINALDO, On the tidal prism - channel area relations, *Journal of Geophysical Research - Earth Surface*, 115, F01003, 2010
- [139] Bertuzzo, E., R. Casagrandi, M. Gatto, I. Rodriguez-Iturbe, A. RINALDO, On spatially explicit models of cholera epidemics, *Proceedings of the Royal Society Interface*, 7(43), 321-333, 2010
- [138] D'Odorico P., F., A. Porporato, L. Ridolfi, A. RINALDO, I. Rodriguez-Iturbe, Ecohydrology of terrestrial ecosystems, *Bioscience*, 60(11), 898-907, 2010
- [137] Marani, M., A. D'Alpaos, S. Lanzoni, L. Carniello, A. RINALDO, The importance of being coupled: Stable states and catastrophic shifts in tidal biomorphodynamics, *Journal of Geophysical Research - Earth Surface*, 115, F04004, 2010
- [136] Basu, N.B., G. Destouni, J.W. Jawitz, S.E. Thompson, N.V. Loukinova, A. Darracq, S. Zanardo, M. Yaeger, M. Sivapalan, A. RINALDO, P.S.C. Rao, Nutrient loads exported from managed catchments reveal emergent biogeochemical stationarity, *Geophysical Research Letters*, 37, L23404, 2010
- [135] Muneeppeerakul, R., S. Azaele, G. Botter, A. RINALDO, I. Rodriguez-Iturbe, Daily streamflow analysis based on a two-scaled gamma pulse model, *Water Resources Research*, 46, W11546, 2010
- [134] Banavar, J.R., M.E. Moses, J.H. Brown, J. Damuth, A. RINALDO, R.M. Sibly, A. Maritan, A general basis for quarter-power scaling in animals, *Proceedings of the National Academy of Sciences USA (PNAS)*, 107(36), 15816-15820, 2010
- [133] McDonnell JJ, McGuire K, Aggarwal P, Beven KJ, Biondi D, Destouni G, Dunn S, James A, Kirchner J, Kraft P, Lyon S, Maloszewski P, Newman B, Pfister L, RINALDO A, Rodhe A, Sayama T, Seibert J, Solomon K, Soulsby C, Stewart M, Tetzlaff D, Tobin C, Troch P, Weiler M, Western A, Worman A, Wrede S, How old is streamwater? Open questions in catchment transit time conceptualization, modelling and analysis, *Hydrological Processes*, 24(12), 1745-1754, 2010

[132] Konar M., R. Muneeppeerakul, S. Azaele, E. Bertuzzo, A. RINALDO, I. Rodriguez-Iturbe I, Potential impacts of precipitation change on large-scale patterns of tree diversity, *Water Resources Research*, 46, W11515, 2010

## 2009

- [131] Bertuzzo, E., R. Muneeppeerakul, H.J. Lynch, W.F. Fagan, I. Rodriguez-Iturbe, A. RINALDO, On the geographic range of freshwater fish in river basins, *Water Resources Research*, 45, W11420, 2009
- [130] Botter, G., A. Porporato, I. Rodriguez-Iturbe, A. RINALDO, Stochastic nonlinear storage-discharge relations and catchment streamflow regimes, *Water Resources Research*, 45, W10427, 2009
- [129] D'Alpaos, A., S. Lanzoni, M. Marani, A. RINALDO, On the O'Brien - Jarrett - Marchi law, *Rendiconti Lincei - Scienze Fisiche e Naturali*, 20(3), 225-236, 2009
- [128] Convertino, M., R. Muneeppeerakul, S. Azaele, E. Bertuzzo, A. RINALDO, I. Rodriguez-Iturbe, On neutral metacommunity patterns of river basins at different scales of aggregation, *Water Resources Research*, 45, W08424, 2009
- [127] Azaele, S., R. Muneeppeerakul, A. Maritan, A. RINALDO, I. Rodriguez-Iturbe, Predicting spatial similarity of freshwater fish biodiversity, *Proceedings of the US National Academy of Sciences*, 106(17), 7058-7062, 2009
- [126] Simini, F., A. RINALDO, A. Maritan, Universal scaling of optimal current distributions in transportation networks, *Physical Review E*, 79, 046110, 2009
- [125] Botter, G., S. Milan, M. Marani, A. RINALDO, Inferences from catchment-scale tracer circulation experiments, *Journal of Hydrology*, 369 (3-4), 368-380, 2009
- [124] Rodriguez-Iturbe, I., R. Muneeppeerakul, E. Bertuzzo, S.A. Levin, A. RINALDO, River networks as ecological corridors: a complex systems perspective for integrating hydrologic, geomorphologic and ecologic dynamics, *Water Resources Research*, 45, W01413, 2009.

## 2008

- [123] Muneeppeerakul, R., E. Bertuzzo, H. Lynch, W.F. Fagan, A. RINALDO, I. Rodriguez-Iturbe, Neutral metacommunity models predict fish diversity patterns in Mississippi-Missouri basin, *Nature*, 453, 220-224, 2008.
- [122] RINALDO, A., L. Nicotina, E. Alessi Celegon, F. Beraldin, G. Botter, L. Carniello, G. Cecconi, A. Defina, T. Settin, A. Uccelli, L. D'Alpaos, M. Marani, Sea level rise, hydrologic runoff and the flooding of Venice, *Water Resources Research*, 44, W12434, 2008
- [121] Nicotina, L., E. Alessi Celegon, A. RINALDO, M. Marani, On the impact of rainfall patterns on the hydrologic response, *Water Resources Research*, 44, W12401, 2008
- [120] Botter, G., S. Zanardo, A. Porporato, I. Rodriguez-Iturbe, A. RINALDO, Ecohydrological model of flow duration curves and annual minima, *Water Resources Research*, 44, W08418, 2008.
- [119] Muneeppeerakul, C.P., F. Miralles-Wilhelm, S. Tamea, A. RINALDO, I. Rodriguez-Iturbe, Coupled hydrologic and vegetation dynamics in wetland ecosystems, *Water Resources Research*, 44(7), W07421, 2008.
- [118] Muneeppeerakul, R., E. Bertuzzo, A. RINALDO, I. Rodriguez-Iturbe, Patterns of vegetation biodiversity: The roles of dispersal directionality and river network structure, *Journal of Theoretical Biology*, 252, 221-229, 2008
- [117] Botter, G., R. Peratoner, M. Putti, A. Zuliani, R. Zonta, M. Marani, A. RINALDO, Catchment scale solute transport in the hydrologic response: a tracer study, *Water Resources Research*, 44, W05409, 2008.
- [116] Botter, G., E. Daly, A. Porporato, I. Rodriguez-Iturbe, A. RINALDO, Probabilistic dynamics of soil nitrate: the coupling of eco-hydrological and bio-geochemical processes, *Water Resources Research*, 44, W03416, 2008.
- [115] Muneeppeerakul, R., A. RINALDO, S.A. Levin, I. Rodriguez-Iturbe, Signatures of vegetational functional diversity in river basins, *Water Resources Research*, 44, W01431, 2008
- [114] Bertuzzo, E., M. Gatto, A. Maritan, S. Azaele, I. Rodriguez-Iturbe, A. RINALDO, On the space-time evolution of a cholera epidemics, *Water Resources Research*, 44, W01424, 2008

## From 2007 backwards

- [113] Muneeppeerakul, R., A. RINALDO, I. Rodriguez-Iturbe, The effects of river flow scaling properties on riparian width and vegetation biomass, *Water Resources Research*, 43(12), W12406, 2007
- [112] Convertino, M., R. Rigon, A. Maritan, I. Rodriguez-Iturbe, A. RINALDO, The probabilistic structure of the distance between tributaries of given size in river networks, *Water Resources Research*, 43(11), W12406, 2007

- [111] Botter, G., F. Peratoner, A. Porporato, I. Rodriguez-Iturbe, A. RINALDO, Signatures of large-scale soil moisture dynamics on streamflow statistics across U.S. climate regimes, *Water Resources Research*, 43(11), W11418, 2007
- [110] Marani, M., A. D'Alpaos, S. Lanzoni, L. Carniello, A. RINALDO, Biologically- controlled multiple equilibria of tidal landforms and the fate of the Venice lagoon, *Geophysical Research Letters*, 34, L11402, 2007
- [109] Munepeperakul, R., S.A. Levin, A. RINALDO, I. Rodriguez-Iturbe, On biodiversity in river networks: a trade-off metapopulation model and comparative analysis, *Water Resources Research*, 43(7), W07426, 2007
- [108] D'Alpaos, A., A. Bonometto, S. Lanzoni, M. Marani, G. Cecconi, A. RINALDO, Spontaneous tidal network formation within a constructed salt marsh: observations and morphodynamic modelling, *Geomorphology*, 91, 186-197, 2007
- [107] Settin, T., G. Botter, I. Rodriguez-Iturbe, A. RINALDO, Numerical studies on soil moisture distributions in heterogeneous catchments, *Water Resources Research*, 43, W05425, 2007
- [106] Banavar, J.R., J. Damuth, A. Maritan, A. RINALDO, Scaling in ecosystems and the linkage of macroecological laws, *Physical Review Letters*, 98, 068104, 1-4, 2007
- [105] Botter, G., A. Porporato, E. Daly, I. Rodriguez-Iturbe, A. RINALDO, Probabilistic characterization of base flows in river basins: roles of soil, vegetation and geomorphology, *Water Resources Research*, 43, W06404, 2007
- [104] Bertuzzo, E., M. Gatto, A. Maritan, I. Rodriguez-Iturbe, A. RINALDO, River networks and ecological corridors: reactive transport on fractals, migration fronts, hydrochory, *Water Resources Research*, 43, W04419, 2007
- [103] Botter, G., A. Porporato, I. Rodriguez-Iturbe, A. RINALDO, Basin-scale soil moisture dynamics and the probabilistic characterization of carrier hydrologic flows: slow, leaching prone component of the hydrologic response, *Water Resources Research*, 43, W02417, 2007
- [102] D'Alpaos, A., S. Lanzoni, M. Marani, A. RINALDO, Landscape evolution in tidal embayments, *Journal of Geophysical Research - Earth Surface*, 112, F01008, 2007
- [101] Munepeperakul, R., J. Weitz, S.A. Levin, A. RINALDO, I. Rodriguez-Iturbe, A neutral metapopulation model of riparian biodiversity, *Journal of Theoretical Biology*, 245, 351-363, 2007
- [100] RINALDO, A., Rain, rivers and turbulence: a view from hydrology, *Water Resources Research*, 42, W06D01, 2006
- [99] Botter, G., T. Settin, M. Marani, A. RINALDO, A stochastic model of Nitrate transport and cycling at basin scale, *Water Resources Research*, 42, W04415, 2006
- [98] Banavar, J.R., A. Maritan, A. RINALDO, Comment on "Revising the distributive networks model of West, Brown and Enquist (1997) and Banavar, Maritan and Rinaldo (1999): Metabolic Inequity of Living Tissues Provides Clues for the Observed Allometric Scaling Rules" by Makarieva, Gorshov and Li, *Journal of Theoretical Biology*, 239, 391-393, 2006
- [97] RINALDO, A., E. Bertuzzo, G. Botter, T. Settin, A. Uccelli, and M. Marani, Transport at Basin Scales 2. Applications, *Hydrology and Earth System Sciences*, 10, 31-48, 2006
- [96] RINALDO, A., E. Bertuzzo, G. Botter, T. Settin, A. Uccelli, and M. Marani, Transport at Basin Scales 1. Theoretical Framework, *Hydrology and Earth System Sciences*, 10, 19-29, 2006
- [95] Marani, M., E. Belluco, S. Ferrari, S. Silvestri, A. D'Alpaos, S. Lanzoni, A. RINALDO, Analysis, synthesis and modelling of high-resolution observations of salt-marsh ecogeomorphological patterns in the Venice lagoon, *Estuarine, Coastal and Shelf Science*, 69 (3-4), 414-426, 2006
- [94] RINALDO, A., J.R. Banavar, A. Maritan, Trees, networks and hydrology, *Water Resources Research*, 42, W06D07, 1-14, 2006
- [93] Feola, A., E. Belluco, S. Lanzoni, A. Marani, A. RINALDO, A geomorphic study of lagoonal landforms, *Water Resources Research*, 41, W06019, 1-11, 2005
- [92] Botter, G., E. Bertuzzo, A. Bellin, A. RINALDO, On the Lagrangian formulations of reactive solute transport in the hydrologic response, *Water Resources Research*, 41(4), 1-13, 2005
- [91] D'Alpaos, A., S. Lanzoni, M. Marani, S. Fagherazzi, A. RINALDO, Tidal network ontogeny: channel initiation and early development, *Journal of Geophysical Research*, 110, F2, 1-18, 2005
- [90] RINALDO, A., E. Bertuzzo, G. Botter, Nonpoint source transport models from empiricism to coherent theoretical frameworks, *Ecological Modelling*, 184, 19-35, 2005
- [89] Marani, M., E. Belluco, A. D'Alpaos, S. Lanzoni, S. Silvestri, A. RINALDO, Tidal landforms, patterns of halophytic vegetation and the fate of the lagoon of Venice, *Journal of Marine Systems*, 51, 191-210, 2004
- [88] RINALDO, A., J.R. Banavar, V. Colizza, A. Maritan, On network form and function, *Physica A*, 340/4, 749-755, 2004
- [87] Colizza, V., J.R. Banavar, A. Maritan, A. RINALDO, Network structures from selection principles, *Physical Review Letters*, 92(19), 198701, 2004

- [86] Botter, G., A. RINALDO, Scale effect on geomorphologic and kinematic dispersion, *Water Resources Research*, 39(9), 2154, 2003
- [85] Banavar, J.R., J. Damuth, A. Maritan, A. RINALDO, Allometric cascades, *Nature*, 421 (6924), 713-714, 2003
- [84] Marani, M., S. Lanzoni, E. Belluco, A. D'Alpaos, A. Defina, A. RINALDO, The drainage density of tidal networks, *Water Resources Research*, 39(2), 105, 2003
- [83] Banavar, J.R., J. Damuth, A. Maritan, A. RINALDO, Scaling and universality in ontogenetic growth, *Nature*, 420 (6916), 626-627, 2002
- [82] Banavar, J.R., J. Damuth, A. Maritan, A. RINALDO, Modelling universality and scaling, *Nature*, 420, 626, 2002
- [81] RINALDO, A., A. Maritan, K. Cavender-Bares, S.W. Chisholm, Cross-scale ecological dynamics and microbial size spectra in marine ecosystems, *Proceedings of the Royal Society B*, 269, 2051-2059, 2002
- [80] Banavar, J.R., J. Damuth, A., Maritan, A. RINALDO, Supply-demand balance and metabolic scaling, *Proceedings of the US National Academy of Sciences*, 99(16), 10506-10509, 2002
- [79] Marani, M., G. Seminara, S. Lanzoni, A. RINALDO, Tidal meanders, *Water Resources Research*, 38 (11), 1225, 2002
- [78] Maritan, A., R. Rigon, J.R. Banavar, A. RINALDO, Network allometry, *Geophysical Research Letters*, 29(11), 3, 1-4, 2002
- [77] Solari, L., G. Seminara, S. Lanzoni, M. Marani, A. RINALDO, Sand bars in tidal channels 2. Tidal meanders, *Journal of Fluid Mechanics*, 451(1), 203-238, 2002
- [76] Marani, M., E. Eltahir, A. RINALDO, Geomorphic controls on regional baseflow, *Water Resources Research*, 37(10), 2619-2630, 2001
- [75] Banavar, J.R., F. Colaiori, A. Flammini, A. Maritan, A. RINALDO, Scaling, optimality and landscape evolution, *Journal of Statistical Physics*, 104 (1/2), 1-48, 2001
- [74] Cavender-Bares, K., A. RINALDO, S.W. Chisholm, Microbial size spectra from marine ecosystems, *Limnology & Oceanography*, 46(4), 778-789, 2001
- [73] Niemann, J.D., R. L. Bras, D. Veneziano, A. RINALDO, Impacts of surface elevation on the growth and scaling properties of simulated river networks, *Geomorphology*, 40, 37-55, 2001
- [72] Bras, R.L., D.R.F. Harleman, A. RINALDO, P. Malanotte Rizzoli, Rescuing Venice from a watery grave, *Science*, 291, 2315-2316, 2001
- [71] Banavar, J.R., A. Maritan, A. RINALDO, Rivers, blood and transportation networks, *Nature*, 408, 159-160, 2000
- [70] Tucker, G., F. Catani, A. RINALDO, R.L. Bras, Statistical analysis of drainage density from digital terrain data, *Geomorphology*, 36(3-4), 187-202, 2000
- [69] Banavar, J.R., A. Maritan, A. RINALDO, Topology of the fittest network, *Physical Review Letters*, 84(20), 4745-4748, 2000
- [68] Harleman, D.R.F., R. Bras, A. RINALDO, P. Malanotte Rizzoli, Blocking the tide, *Civil Engineering*, 70(10), 52-57, 2000
- [67] Banavar, J.R., A. Maritan, A. RINALDO, Size and form in efficient transportation networks, *Nature*, 399, 130-132, 1999
- [66] RINALDO, A., Hydraulic networks in nature, *Journal of Hydraulic Research*, 37, 861-859, 1999
- [65] Fagherazzi, S., A. Bortoluzzi, W.E. Dietrich, A. Adami, M. Marani, S. Lanzoni, A. RINALDO, Tidal networks. 1. Automatic network extraction and preliminary scaling features from DTMs, *Water Resources Research*, 35(12), 3891-3904, 1999
- [64] RINALDO, A., S. Fagherazzi, A. Bortoluzzi, A. Adami, M. Marani, S. Lanzoni, W.E. Dietrich, Tidal networks. 2. Watershed delineation and comparative network morphology, *Water Resources Research*, 35(12), 3905-3917, 1999
- [63] RINALDO, A., S. Fagherazzi, M. Marani, S. Lanzoni, W.E. Dietrich, Tidal networks. 3. Landscape-forming discharges and studies in empirical geomorphic relationships, *Water Resources Research*, 35(12), 3919-3929, 1999
- [62] Rodriguez-Iturbe, I., P. D'Odorico and A. RINALDO, Possible self-organization of land-atmosphere interactions, *Journal of Geophysical Research*, 103, 23071-23077, 1998
- [61] Rodriguez-Iturbe, I., M. Marani, P. D'Odorico, A. RINALDO, On space-time scaling of cumulated rainfall fields, *Water Resources Research*, 34, 3461-3470, 1998
- [60] Bellin, A., A. RINALDO, W.J.P. Bosma, S.E.A.T.M. van der Zee, Y. Rubin, Linear equilibrium adsorbing solute transport in physically and chemically heterogeneous porous formations 1. Analytical solutions, Reply, *Water Resources Research*, 34, 3705-3708, 1998
- [59] Rigon, R., I. Rodriguez-Iturbe, A. RINALDO, Feasible optimality implies Hack's law, *Water Resources Research*, 34, 3181-3190, 1998

- [58] Marani, M., A. Maritan, G. Caldarelli, J.A. Banavar, A. RINALDO, Stationary self-organized fractal structures in potential force fields, *Journal of Physics A Mat. Gen.*, 31, 337-343, 1998
- [57] Rodriguez-Iturbe, I., P. D'Odorico, A. RINALDO, Configurational entropy and fractal landscapes, *Geophysical Research Letters*, 25(7), 1015-1018, 1998
- [56] Cieplak, M., A. Giacometti, A. Maritan, I. Rodriguez-Iturbe, J.R. Banavar, A. RINALDO, Models of fractal river networks, *Journal of Statistical Physics*, 91, 1-15, 1998
- [55] RINALDO, A., I. Rodriguez-Iturbe, Channel networks, *Annual Review of Earth and Planetary Sciences*, 26, 289-327, 1998
- [54] Caldarelli, G., A. Giacometti, A. Maritan, I. Rodriguez-Iturbe, A. RINALDO, Randomly pinned landscape evolution, *Physical Review E*, 55, 4865-4869, 1997
- [53] - Banavar, J.A., F. Colaiori, A. Flammini, A. Giacometti, A. Maritan, A. RINALDO, Sculpting of a fractal river basin, *Physical Review Letters*, 78(23), 4522-4525, 1997
- [52] Rigon, R., I. Rodriguez-Iturbe, A. Giacometti, A. Maritan, A. RINALDO, On Hack's law, *Water Resources Research*, 32, 11, 3367-3374, 1996
- [51] Bellin, A., M. Pannone, A. Fiori, A. RINALDO, On transport in porous formations characterized by heterogeneity of evolving scales, *Water Resources Research*, 32, 12, 3485-3496, 1996
- [50] RINALDO, A., A. Maritan, A. Flammini, F. Colaiori, A. R. Rigon, I. Rodriguez-Iturbe e J.R. Banavar, Thermodynamics of fractal networks, *Physical Review Letters*, 76, 3364-3368, 1996
- [49] Maritan, A., A. RINALDO, I. Rodriguez-Iturbe, R. Rigon, A. Giacometti, Scaling in river networks, *Physical Review E*, 53, 1501-1513, 1996
- [48] RINALDO, A. and I. Rodriguez-Iturbe, The geomorphological theory of the hydrologic response, *Hydrological Processes*, 10(6), 803-844, 1996
- [47] RINALDO, A., W.E. Dietrich, G. Vogel, R. Rigon, I. Rodriguez-Iturbe, Geomorphological signatures of varying climate, *Nature*, 374, 632-636, 1995
- [46] Rodriguez-Iturbe, I., G.K. Vogel, R. Rigon, D. Entekhabi, F. Castelli, A. RINALDO, On the spatial organization of soil moisture fields, *Geophysical Research Letters*, 22(20), 2757-2760, 1995
- [45] Bellin, A., A. RINALDO, Analytical solutions for transport of linearly adsorbing solutes in heterogeneous formations, *Water Resources Research*, 31(6), 1505-1511, 1995
- [44] RINALDO, A., G.K. Vogel, R. Rigon, I. Rodriguez-Iturbe, Can one gauge the shape of a basin?, *Water Resources Research*, 31, 1119-1128, 1995
- [43] Marani, M., A. RINALDO, R. Rigon, I. Rodriguez-Iturbe, Geomorphological width functions and the random cascade, *Geophysical Research Letters*, 21(19), 2123-2126, 1994
- [42] Rodriguez-Iturbe, I., M. Marani, R. Rigon, A. RINALDO, Self-organized river basin landscapes: fractal and multifractal characteristics, *Water Resources Research*, 30(12), 3531-3539, 1994
- [41] Bosma, W.J., S.E.A.T.M. Van der Zee, A. Bellin, A. RINALDO, Instantaneous injection on nonlinearly adsorbing solute in a heterogeneous aquifer, *Water Resources Research*, 30(11), 3004-3012, 1994
- [40] Rigon, R., A. RINALDO, I. Rodriguez-Iturbe, On landscape self-organization, *Journal of Geophysical Research*, 99(B06), 11971-11993, 1994
- [39] Bellin, A., Y. Rubin, A. RINALDO, Eulerian - Lagrangian approach for modeling of flow in heterogeneous geological formations, *Water Resources Research*, 30(11), 2913-2919, 1994
- [38] Bosma, W.J.P., A. Bellin, S. E. A. T. M. Van der Zee, A. RINALDO, Linear equilibrium adsorbing solute transport in chemically and physically heterogeneous porous formations. 2. Numerical results, *Water Resources Research*, 29(12), 4031-4044, 1993
- [37] Bellin, A., A. RINALDO, W.J. Bosma, S. E. A. T. M. Van der Zee, Y. Rubin, Linear equilibrium adsorbing solute transport in chemically and physically heterogeneous porous formations. 1. Analytical solutions, *Water Resources Research*, 29(12), 4019-4030, 1993
- [36] RINALDO, A., I. Rodriguez-Iturbe, R. Rigon, R.L. Bras, E. Ijjasz-Vasquez, Self-organized fractal river networks, *Physical Review Letters*, 70, 1222-1226, 1993
- [35] Ijjasz-Vasquez, E., R.L. Bras, I. Rodriguez-Iturbe, R. Rigon, A. RINALDO, Are river basins optimal channel networks?, *Advances in Water Resources*, 16, 69-79, 1993
- [34] Rigon, R., A. RINALDO, I. Rodriguez-Iturbe, E. Ijjasz-Vasquez, R.L. Bras, Optimal channel networks: a framework for the study of river basin morphology, *Water Resources Research*, 29(6), 1635-1646, 1993
- [33] Rodriguez-Iturbe, I., A. RINALDO, R. Rigon, R.L. Bras, E. Ijjasz-Vasquez, A. Marani, Fractal structures as least energy dissipation patterns: the case of river networks, *Geophysical Research Letters*, 5, 2854-2860, 1992
- [32] RINALDO, A., I. Rodriguez-Iturbe, R. Rigon, R.L. Bras, E. Ijjasz-Vasquez, A. Marani, Minimum energy and fractal structures of river networks, *Water Resources Research*, 28 (9), 2183-2195, 1992

- [31] Bellin, A., P. Salandin, A. RINALDO, Dispersion in heterogeneous porous formations: statistics, first-order theories, convergence of computations, *Water Resources Research*, 28(9), 2211-2227, 1992
- [30] Rodriguez-Iturbe, I., A. RINALDO, R. Rigon, R.L. Bras, E. Ijjasz-Vasquez, Energy dissipation, runoff production and the 3-D structure of channel networks, *Water Resources Research*, 28 (4), 1095-1103, 1992
- [29] Fiorotto, V., A. RINALDO, Turbulent pressure fluctuations past hydraulic jumps, *Journal of Hydraulic Research*, 30, 499-520, 1992
- [28] Fiorotto, V., A. RINALDO, Fluctuating uplift and linings design in spillway stilling basins, *ASCE Journal of Hydraulic Engineering*, Vol. 118 (4), 578-596, 1992
- [27] Salandin, P., A. RINALDO, G. Dagan, A note on transport in stratified formations by flow tilted with respect to the bedding, *Water Resources Research*, 27 (11), 3009-3117, 1991
- [26] Marani, A., R. Rigon, A. RINALDO, A note on fractal channel networks, *Water Resources Research*, 27(12), 3041-3049, 1991
- [25] Salandin, P., A. RINALDO, Transport of passive solutes in heterogeneous isotropic porous formations, *Excerpta*, 5, 57-92, 1991
- [24] RINALDO, A., A. Marani, R. Rigon, Geomorphological dispersion, *Water Resources Research*, 28 (4), 513-525, 1991
- [23] Fiorotto, V., A. RINALDO, Karnafuli project, model studies on spillway damage, Discussion, *ASCE Journal of Hydraulic Engineering*, 116(6), 850-852, 1990
- [22] Sartoretto, F., G. Gambolati, A. RINALDO, Land subsidence due to gas/oil production in homogeneous transversally anisotropic half-space by a boundary element method, *International Journal for Numerical and Analytical Methods in Geomechanics*, 14, 379-399, 1990
- [21] Fiorotto, V., A. RINALDO, Sul dimensionamento delle protezioni di fondo in bacini di dissipazione: nuovi risultati teorici e sperimentali, *Giornale del Genio Civile*, 7-8-9, 179-201, 1989
- [20] Salandin, P., A. RINALDO, The influence of the form of the log-conductivity covariance on non-Fickian dispersion in random permeability fields, *International Journal for Numerical Methods in Engineering*, 27, 185-193, 1989
- [19] RINALDO, A., A. Marani, A. Bellin, On Mass Response Functions, *Water Resources Research*, 25 (8), 1603-1617, 1989
- [18] RINALDO, A., A. Bellin, A. Marani, A study on solute NO<sub>3</sub>-N transport in the hydrologic response by a MRF model, *Ecological Modelling*, 48, 159-191, 1989
- [17] Datei, C., L. Natale, A. RINALDO, A survey of flood studies on dam hydrology, *Idrotecnica*, 2, 73-80, 1988.
- [16] Gambolati, G., F. Sartoretto, A. RINALDO, G. Ricceri, A boundary element solution to land subsidence above 3-D gas/oil reservoirs, *International Journal for Numerical and Analytical Methods in Geomechanics*, 11, 489-502, 1987
- [15] RINALDO, A., M. Putti, On residual currents in schematic tidal expansions, *Excerpta*, 2, 39-45, 1988
- [14] RINALDO, A., A. Marani, Basin scale model of solute transport, *Water Resources Research*, 23 (11), 2107-2118, 1987
- [13] RINALDO, A., Stability of the linings of spillway stilling basins, *Excerpta*, Vol. 1, 43 - 55 , 1987
- [12] RINALDO, A., Un criterio di dimensionamento delle protezioni di fondo in bacini di dissipazione, *Giornale del Genio Civile*, 4-5-6, 70-91, 1985
- [11] Zingales, F., A. Marani, A. RINALDO, G. Bendoricchio, A conceptual model of unit-mass response function for nonpoint source pollutant runoff, *Ecological Modelling*, 26, 285-311, 1984
- [10] Da Deppo, L., C. Datei, V. Fiorotto, A. RINALDO, Capacity and type of units for small hydroplants, *International Journal for Water Power & Dam Construction*, 1, 25-29, 1984
- [9] Datei, C., A. RINALDO, Le resistenze al moto nelle condotte di grande diametro, *Ingegneria Sanitaria*, 2, 32 - 41, 1984
- [8] RINALDO, A., A. Giorgini, A mixed algorithm for the calculation of rapidly varying fluid flows: the impulsively started circular cylinder, *International Journal for Numerical Methods in Fluids*, 4, 949 - 969, 1984
- [7] Rao, Ramachandra A., R.H. Lee, A. RINALDO, Spectra of road surface roughness on bridges, Discussion, *ASCE Journal of Structural Engineering*, 10, 1201 - 1217, 1983
- [6] Giorgini, A., A. RINALDO, Computational model for the Ohio river chutes at Louisville (KY): the 1792 virgin conditions, *Transactions of the Journal of the Instrument Society of America*, 8, 25-32, 1983
- [5] Zingales, F., S. Alessandrini, G. Bendoricchio, C. Comis, A. Marani, F. Pianetti, A. RINALDO, C. Sartori-Borotto, Simulazione del dilavamento di sostanze chimiche da terreni agricoli, *Inquinamento*, 23(10), 2-7, 1981
- [4] Zingales, F., S. Alessandrini, G. Bendoricchio, C. Comis, A. Marani, F. Pianetti, A. RINALDO, C. Sartori-Borotto, S. Zanin, Inquinamento delle acque da sorgenti diffuse: analisi statistiche, *Inquinamento*, 13 (1), 1-4, 1981

- [3] Zingales, F., G. Bendoricchio, A. Marani, A. RINALDO, C. Sartori-Borotto, S. Zanin, Inquinamento dovuto alle acque di un bacino agricolo sversate nella Laguna di Venezia, *Inquinamento*, 12 (12), 1-8, 1980
- [2] Da Deppo, L., A. RINALDO, Choosing the number and length of adits for a long tunnel, *International Journal for Water Power & Dam Construction*, 33 (9), 36-39, 1981
- [1] D'Alpaos, L., A. RINALDO, Effetti di nonlinearietà e varianza in un modello di generazione delle piene: un criterio di stima, *L'Energia Elettrica*, 4 (57), 1-7, 1980