

CURRICULUM VITAE OF MONICA RIVA

Piazza L. Da Vinci, 32 – 20133 Milano (Italy)
Tel. +39-02-2399-6214; +39-338-6425813
Fax: +39-02-2399-6298
e-mail: monica.riva@polimi.it

Monica Riva (Lecco, 13 October 1970).

Current position. Professor at the Dept. of Civil and Environmental Engineering (DICA) of the Politecnico di Milano (Polimi).

Affiliation. Adjunct Professor at the Department of Hydrology and Water Resources of the University of Arizona.

Education. Graduated in Civil Engineering (hydraulics), Polimi (1996). Doctoral Degree in Hydraulic Engineering, Polimi (2000).

ACADEMIC RECORD

2013 – : Adjunct Associate Professor, Dept. of Hydrology and Water Resources, The University of Arizona, Tucson, Arizona, USA.

2013 – 2015: Associate Professor, Dept. of Civil and Environmental Engineering (DICA), Polimi.

2011 – 2013: Associate Professor, Dept. of Environmental, Hydraulic, Infrastructures and Surveying Engineering (DIIAR), Polimi.

2002 – 2010: Assistant Professor, DIIAR, Polimi.

2013, 2014: Professeur Invité at the University of Strasbourg, France.

2011, 2012: Visiting Professor at the Dept. of Hydrology and Water Resources, The University of Arizona, Tucson, Arizona, USA.

2008: Visiting Scientist at the CNRS/INSU, Poitiers (France). Program: HTHS, Hydrodynamic and Transfers in Hydrogeological Systems, EC2CO/MACH-1: Modeling of Heterogeneous Carbonate Aquifers.

1999, 2006: Visiting Scientist at Dept. of Hydrology and Water Resources, The University of Arizona, Tucson, Arizona, USA.

1999 – 2002: Assistant Researcher (“Assegnista di ricerca”), DIIAR, Polimi.

RESEARCH ACTIVITY

Research activity has been focused mainly (about 130 publications, of which more than about 80 on international journals included in the Journal Citation Report) on subsurface flow and transport dynamics, parameter estimation, stochastic groundwater hydrology, probabilistic well capture zones, scaling in hydrology, stochastic inverse modeling, uncertainty quantification, multiphase flows, oil recovery, experimental, analytical and numerical methods, interpretation and modeling of experimental data, groundwater management. One of her main contributions is the development of exact and approximated formalisms for prediction of groundwater flow fields processes governing the spreading of conservative

and reactive solutes in hydro-geo-chemically heterogeneous geomaterials by means of conditional moments of the state variable of interest. On the basis of such theoretical framework original analytical and numerical solutions of the investigated processes have been derived. She developed and applied innovative stochastic and upscaling techniques to study multiphase flow features of immiscible and miscible fluids. She has developed a theory (sub-Gaussian models) able to capture the non-Gaussian and scaling behavior exhibited by many hydrological-hydrogeological-environmental variables. She has introduced novel metrics to perform global sensitivity analysis across multiple interpretive models with uncertain parameters. She is a leading scientist of the Groundwater research group of Polimi (DICA). The last peer review (year 2010) has evaluated this group as Excellent at international level.

KEY WORDS OF THE RESEARCH ACTIVITY: Flow and transport processes in the subsurface; Stochastic approaches; Uncertainty quantification; Local and Global Sensitivity analysis; Risk analysis; Effective, Equivalent and Apparent parameters; Probabilistic estimation of capture zones of wells-springs; Characterization of aquifers and geostatistical inversion; Probabilistic reconstruction of geo-materials (facies) and hydraulic properties; Deterministic and stochastic upscaling techniques; Scaling of stochastic processes and fractal nature of environmental variables; Data assimilation; Multiphase flows; Sub-Gaussian Processes.

Metrics (updated in March 2019)

h-index: 21 (Scopus-ISI), 24 (Google Scholar).

Total citations: 1368 (Scopus), 1188 (ISI), 1680 (Google Scholar), i10-index: 51

TEACHING ACTIVITY AT POLIMI

Graduation courses

Tenure of courses

2011 – : Groundwater (10 credits, School of Civil and Environmental Engineering).

2009 – : Fluid Mechanics (8 credits, School of Industrial Engineering)

2003 – 2008: Fluid Mechanics II (5 credits, School of Industrial Engineering)

2002 – 2006: Fluid Mechanics I (5 credits, School of Industrial Engineering)

2000 – 2001: Fluid Mechanics (10 credits, School of Industrial Engineering)

Teaching assistance

2004 – 2010: Groundwater (School of Civil and Environmental Engineering)

1997, 1999 – 2000: Fluid Mechanics (School of Industrial Engineering)

1996 – 1997: Hydraulics (School of Civil and Environmental Engineering)

Phd courses

2007: Inverse Geostatistical models (PhD in Environmental and Infrastructure Engineering, DIIAR, Polimi)

2011: Probabilistic capture zones (PhD program of SIPD, Polimi).

2011: Basics of Stochastic Approaches in Hydrogeology, (training of early researcher financed by the EU)

Marie Curie Initial Training Network IMVUL)

2013: Stochastic Approaches in Groundwater, (PhD in Environmental and Infrastructure Engineering, DICA, Polimi).

II Level Master

2019: Pumping and Dewatering, II Level Master in Tunnel Engineering; Polimi (March 2019).

Tutor/advisor of 8 PhD theses and of numerous master theses.

Currently tutor/advisor of 2 PhD students.

SPECIAL PROFESSIONAL/EDITORIAL ACTIVITIES

2019 - Council Member of Interpore (International Society for Porous Media)

2018- Editor of the International Journal *Encyclopedia of Geosciences*, European Geosciences Union (EGU)

2016 – Subsurface Hydrology and Groundwater sub-division chair at the EGU General Assembly.

2013 –: Editor of the International Journal *Hydrology and Earth System Sciences*, EGU.

2010 –: Associate Editor of the International Journal *Water Resources Research*, American Geophysical Union (AGU).

2010 –: Convener of sessions on *Subsurface Hydrology* at the EGU General Assembly.

2004 – 2010: Member of the scientific committee of the European Conference on Geostatistics for Environmental Applications (GeoENV)

2004 – 2009: Associate Editor of the International Journal *Reviews of Geophysics*, AGU.

Expert, Research Proposal Evaluation Panels (Israeli Science Foundation, Israel; Fondazione Cassa di Risparmio Padova e Rovigo, Italy).

Reviewer for several international journals (Journal Hydrology and Heart System Sciences, Reviews of Geophysics, Water Resources Research, Advances in Water Resources, Journal of Contaminant Hydrology, Journal of Hydrology, Transport in porous media, Hydrogeology Journal, Stochastic Environmental Research and Risk Assessment).

Member of several committees for the selection of PhD student, post-doc (Assistant Researcher), Researcher, Associate and Full Professor candidates.

INSTITUTIONAL ACTIVITIES

2019 – Vice-Director of the PhD programme in Environmental and Infrastructure Engineering, DICA, Polimi

2014 – 2016: Member of the international committee of DICA

2012 –: Responsible of the Doctoral Program in Environmental and Infrastructure Engineering. Profile A - “Hydraulic Engineering”, Polimi.

2012 –: Member of the collegium and of the junta of the PhD programme in Environmental and Infrastructure Engineering, DICA, Polimi

KEY RESEARCH PROJECTS

Coordinator of the Water JPI project WE-NEED (2016-2019) “WatEr NEEDs, Availability, Quality and Sustainability” funded by MIUR (Ministry of Education, Research and University of Italy, 2016-2019), within the ERA-NET Cofund Water Works 2014. The main motivation underlying the activity of WE-NEED is to develop new management strategies to assist the sustainable use and protection of groundwater resources (www.we-need.polimi.it).

She has coordinated the project GEMINO- Bridging across observable multiscale processes and modeling” (2009-2012). GEMINO has been financed by Polimi through a competition (judged by international referees) for young scientists on issues of significant social interest. The project starts from the observation that in many aquifer tests the information conveyed by each measured process may be far from complete so that one is confronted with the problem of fusing data of various nature to achieve the desired level of knowledge. GEMINO proposes to develop, test, and apply a physically-based and observation-inspired hierarchical framework for modeling three-dimensional dynamics of groundwater systems across multiple spatial scales. The use of such a framework is ideally suited to the fusion of data from several techniques and varying degrees of resolutions and spatial coverage within the context of predictive models.

She was the Principal Investigator of the following projects:

- “Hydroelectric energy by osmosis in coastal areas” financed by MIUR (Ministry of Education, Research and University of Italy, 2013-2015). The key objective of this project is to assess the effect of heterogeneity and (conceptual and parametric) uncertainty on the ability to predict the dynamics of salt water intrusion and up-coning.
- “Valutazione del contributo di fondo naturale del cromo esavalente nei corpi idrici montani, al fine di classificare correttamente lo stato chimico ai sensi della direttiva 2000/60/CE” (Arpa Emilia Romagna 2014-2015).

She was a leading scientist of the following projects:

- Modeling geochemical compaction within reactive fluxes at the basin scale (2009 – 2015 funded by Eni S.p.A.).
- Water Alternate Gas Injection (2011 – 2017; funded by Eni S.p.A.).
- History matching for characterization of reservoir facies by stochastic inversion methodologies (2011 – 2014; funded by Eni S.p.A.).
- EU Marie Curie Initial Training Network IMVUL (Towards Improved Groundwater Vulnerability Assessment) funded by the European Union, within the call FP7-PEOPLE-2007-1-1-ITN (2008-2012). The main motivation underlying the activity of IMVUL is to train researchers in the major issues, scientific challenges and operational problems in groundwater vulnerability that face the groundwater industry today, through a combination of research and industry related training.

She was coordinator assistant and she participated to the European Consortium W-SAHaRA (Stochastic Analysis of Well-Head Protection and Risk Assessment) funded by the European Union, within the Fifth Framework Program (2000-2003). The main motivation underlying the activity of W-SAHaRA was the need to recognize the importance of the heterogeneity of natural geological materials and its impact on the sustainable management and development of drinking well fields.

She participated to several projects founded by the Italian Ministry of Research and Education. The more recent grants are:

- “Statistical estimation of heterogeneity in complex randomly heterogeneous geologic media” (2006-2008).
- NUMQUES ‘Advanced Numerical Techniques for Uncertainty Quantification in Engineering and Life Science Problems’ (2009 – 2012).

INVITED TALKS AND SEMINARS

- Prediction of Uncertainty in well capture regions, Florida State University, Tallahassee, USA, January, 2007.
- Geostatistical characterization of a fluvial unconfined aquifer based on pumping test data from four wells, Vienna, EGU General Assembly, 2007.
- Stochastic Modeling of an experimental site, H+ Reseau National de sites hydrogéologiques, Poitiers, 6-8 October, 2008.
- Geostatistical Inversion of Moment Equations of Groundwater flow, workshop: Numerical Solution of Stochastic Partial Differential Equations, Politecnico di Torino, May 10-13, 2010.
- Scaling of hydrologic variables and their extremes (Black Swans and Dragon Kings!), University of Arizona, October 31, 2012.
- Homogenization approach for multiphase flow in porous media, University of Strasbourg, June, 2013.
- Characterization of sedimentary basins in the presence of mechanical and geochemical compaction, IAHR-7th International Groundwater Symposium, Perugia, September, 2014.
- New Model for scalable non-Gaussian random fields, International Symposium on Sustainable Development in Water Resources and Ecological Environment, Guangzhou, China, March 2016.
- The Generalized Sub-Gaussian Model: Theory and Applications, FrontUQ2018, Quantification in Subsurface Environments, Pavia, September 2018
- Sensitivity Analysis and Uncertainty Quantification in hydrogeology, Modelling, Workshop: Simulation and Risk Assessment for Fractured Geological Media, March 27- 28, 2019.

PROFESSIONAL SOCIETIES

American Geophysical Union; European Geophysical Union; Interpore; National Groundwater Association; Board of Engineers (Italy).

LIST OF PUBLICATIONS

Paper in international refereed Journals

1. Riva M., A. Guadagnini, F. Ballio (1999), Time Related Capture Zones for Radial Flow in Two-Dimensional Randomly Heterogeneous Media, *Stochastic Environmental Research and Risk Assessment*, 13(3), 217-230, doi: 0.1007/s004770050040.
2. Riva M., A. Guadagnini, S.P. Neuman, S. Franzetti (2001), Radial flow in a bounded, randomly heterogeneous aquifer, *Transport in Porous Media*, 45(1), 139-193, doi:10.1023/A:1011880602668
3. Guadagnini A., M. Riva, S.P. Neuman (2003), Three-dimensional steady state flow to a well in a randomly heterogeneous bounded aquifer, *Water Resour. Res.*, 39(3), 1048, doi: 10.1029/2002WR001443.
4. Guadagnini A., X. Sanchez-Vila, M. Riva, M. De Simoni (2003), Mean travel time of conservative solutes in randomly heterogeneous unbounded domains under mean uniform flow, *Water Resour. Res.*, 39(3), 1050, doi:10.1029/2002WR001811.
5. Tartakovsky D.M., A. Guadagnini, M. Riva (2003), Stochastic averaging of nonlinear flows in heterogeneous porous media, *J. Fluid. Mech.*, vol. 492, pp 47-62, doi:10.1017/S002211200300538X.
6. Neuman S.P., A. Guadagnini, M. Riva (2004), Type-curve estimation of statistical heterogeneity, *Water Resour. Res.*, 40, W04201, doi:10.1029/2003WR002405.
7. Stauffer F., A. Guadagnini, A. Butler, H.-J. Franssen, N. Van De Wiel, M. Bakr, M. Riva, L. Guadagnini (2005), Delineation of source protection zones using statistical methods, *Water Resources Management*, 19, 163 – 185, doi: 10.1007/s11269-005-3182-7.
8. Riva M., X. Sanchez-Vila, A. Guadagnini, M. De Simoni, M. Willmann (2006), Travel time and trajectory moments of conservative solutes in two-dimensional convergent flows, *J. Contam. Hydrol.*, 82, 23-43, doi:10.1016/j.jconhyd.2005.06.014.
9. Riva M., A. Guadagnini, M. De Simoni (2006), Assessment of uncertainty associated to the estimation of well catchments by moment equations, *Adv. Water Res.*, 29, 676-691, doi:10.1016/j.advwatres.2005.07.005.
10. Riva M., L. Guadagnini, A. Guadagnini, T. Ptak , E. Martac (2006) Probabilistic study of well capture zones distribution at the Lauswiesen field site, *J. Contam. Hydrol.*, 88(1-2), 92-118, doi:10.1016/j.jconhyd.2006.06.005.
11. Neuman S.P., A. Blattstein, M. Riva, D.M. Tartakovsky, A. Guadagnini, T. Ptak (2007), Type curve interpretation of late-time pumping test data in randomly heterogeneous aquifers, *Water Resour. Res.*, 43, W10421, doi:10.1029/2007WR005871
12. Neuman S.P., M. Riva, A. Guadagnini (2008), On the geostatistical characterization of hierarchical media, *Water Resour. Res.*, 44, W02403, doi:10.1029/2007WR006228.
13. Riva M., A. Guadagnini, D. Fernandez-Garcia, X. Sanchez-Vila, T. Ptak (2008), Relative importance of geostatistical and transport models in describing heavily tailed breakthrough curves at the Lauswiesen site, *J. Contam. Hydrol*, 101, 1-13, doi:10.1016/j.jconhyd.2008.07.004.
14. Riva M., A. Guadagnini (2009), Effects of evolving scales of heterogeneity on hydraulic head predictions under convergent flow conditions, *Hydrogeology Journal*, 17(4), 817-825, doi:10.1007/s10040-008-0396-9.
15. Riva M., A. Guadagnini, J. Bodin, F. Delay (2009), Characterization of the Hydrogeological Experimental Site of Poitiers (France) by stochastic well testing analysis, *Journal of Hydrology*, 369 (1-2), 154-164, doi:10.1016/j.jhydro.2009.02.040.
16. Riva M., A. Guadagnini, X. Sanchez-Vila (2009), Effect of sorption heterogeneity on moments of solute residence time in convergent flows, *Mathematical Geosciences*, 41, 835-853, doi:10.1007/s11004-009-9240-96.
17. Hendricks Franssen H.J., A. Alcolea, M. Riva, M. Bakr, N. van der Wiel, F. Stauffer, A. Guadagnini (2009), A comparison of seven methods for the inverse modelling of groundwater flow. Application to the characterisation of well catchments, *Adv. Water Res.*, 32(6), 851-872, doi:10.1016/j.advwatres.2009.02.011.
18. Riva M., M. Willmann (2009), Impact of the choice of the log-transmissivity variogram structure on groundwater flow and transport predictors, *Adv. Water Res.*, 32(8), 1311-1322, doi:10.1016/j.advwatres.2009.05.007.
19. Riva M., A. Guadagnini, S. P. Neuman, E. Bianchi Janetti, B. Malama (2009), Inverse analysis of stochastic moment equations for transient flow in randomly heterogeneous media, *Adv. Water Res.*, 32, 1495-1507, doi:10.1016/j.advwatres.2009.07.003.
20. Bianchi Janetti E., M. Riva, , S. Straface, A. Guadagnini (2010), Stochastic characterization of the Montaldo Uffugo research site (Italy) by geostatistical inversion of moment equations of groundwater flow, *Journal of Hydrology*, 381, 42-51, doi:10.1016/j.jhydro.2009.11.023.
21. Riva M., L. Guadagnini, A. Guadagnini (2010), Effect of uncertainty of lithofacies, conductivity an porosity distributions on stochastic interpretations of a field scale tracer test, *Stochastic Environmental Research and Risk Assessment*, 24, 955-970, doi:10.1007/s00477-010-0399-7.

22. Riva M., A. Guadagnini, F. De Gaspari, A. Alcolea (2010), Exact sensitivity matrix and influence of the number of pilot points in the geostatistical inversion of moment equations of groundwater flow, *Water Resour. Res.*, 46, W11513, doi:10.1029/2009WR008476
23. Barahona-Palomo M., M. Riva, X. Sanchez-Vila, E. Vazquez-Sune, A. Guadagnini (2011), Comparison of impeller flowmeter and particle-size distribution techniques for the characterization of hydraulic conductivity variability, *Hydrogeology Journal*, 19(3), 603-612 doi:10.1007/s10040-011-0706-5
24. Riva M., M. Panzeri, A. Guadagnini, S. P. Neuman, (2011), Role of model selection criteria in geostatistical inverse estimation of statistical data- and model-parameters, *Water Resour. Res.*, 47, W07502, doi:10.1029/2011WR010480.
25. Straface S., F. Chidichimo, E. Rizzo, M. Riva, W. Barrash, A. Revil, M. Cardiff, A. Guadagnini (2011), Joint inversion of steady-state hydrologic and self-potential data for 3D hydraulic conductivity distribution at the Boise Hydrogeophysical Research Site, *Journal of Hydrology*, 407 (1-4), pp. 115 - 128, doi:10.1016/j.jhydrol.2011.07.013
26. Cadini F., J. De Sanctis, A. Cherubini, E. Zio, M. Riva, A. Guadagnini (2012), An integrated simulation framework for the performance assessment of radioactive waste repositories, *Annals of Nuclear Energy*, 39, 1-8, doi:10.1016/j.anucene.2011.09.002
27. Siena M., A. Guadagnini, M. Riva, S. P. Neuman (2012), Extended power-law scaling of air permeabilities measured on a block of tuff, *Hydrology and Earth System Sciences*, 16, 29-42, doi:10.5194/hess-16-29-2012
28. Porta G.M., M. Riva, A. Guadagnini (2012), Upscaling solute transport in porous media in the presence of an irreversible bimolecular reaction, *Adv. Water Res.*, 35, 151-162, doi:10.1016/j.advwatres.2011.09.004.
29. Cadini F., J. De Sanctis, A. Cherubini, E. Zio, M. Riva, A. Guadagnini (2012), Nominal range sensitivity analysis of peak radionuclide concentrations in randomly heterogeneous aquifers, *Annals of Nuclear Energy*, 47, 166-172, doi: 10.1016/j.anucene.2012.05.005
30. Riva M., P. Ackerer, A. Guadagnini (2012) Interpretation of flowmeter data in heterogeneous layered aquifers, *Journal of Hydrology*, 452-453, 76-82, doi: 10.1016/j.jhydrol.2012.05.040
31. Bianchi Janetti E.; I. Dror; M. Riva; A. Guadagnini; B. Berkowitz (2012) Estimation of single-metal and competitive sorption isotherm through Maximum likelihood and model quality criteria, *Soil Science Society of America Journal*, 76:1229–1245, doi:10.2136/sssaj2012.0010
32. Guadagnini A., S. P. Neuman, M. Riva (2012), Numerical Investigation of Apparent Multifractality of Samples from Processes Subordinated to Truncated fBm, *Hydrological Processes*, 26, 2894-2908, doi: 10.1002/hyp.8358
33. Guadagnini, A., M. Riva, and S.P. Neuman (2012), Extended power-law scaling of heavy-tailed random air-permeability fields in fractured and sedimentary rocks, *Hydrol. Earth Syst. Sci.*, 16, 3249-3260, doi:10.5194/hess-16-3249-2012.
34. Porta G.M, J.F. Thovert, M. Riva, A. Guadagnini, P.M. Adler (2012) Microscale simulation and numerical upscaling of a reactive flow in a plane channel, *Physical Review E*, 86(3), p. 1-15.
35. Riva M., S.P. Neuman, A. Guadagnini (2013) Sub-Gaussian models of processes with heavy-tailed distributions applied to air permeabilities of fractured tuff, *Stochastic Environmental Research and Risk Assessment*, 27(1), 195-207, doi: 10.1007/s00477-012-0576-y
36. Formaggia L., A. Guadagnini, I. Imperiali, V. Lever, G. Porta, M. Riva, A. Scotti, L. Tamellini (2013), Global Sensitivity Analysis through Polynomial Chaos Expansion of a basin-scale geochemical compaction model, *Computational Geosciences*, 17(1), 25-42, doi 10.1007/s10596-012-9311-5
37. Panzeri, M., M. Riva, A. Guadagnini, and S. P. Neuman (2013), Data assimilation and parameter estimation via ensemble Kalman filter coupled with stochastic moment equations of transient groundwater flow, *Water Resour. Res.*, 49, 1334-1344, doi:10.1002/wrcr.20113.
38. Ciriello V., V. Di Federico, M. Riva, F. Cadini, J. De Santis, E. Zio, A. Guadagnini (2013), Polynomial chaos expansion for global sensitivity analysis applied to a model of radionuclide migration in a randomly heterogeneous aquifer, *Stochastic Environmental Research and Risk Assessment*, 27, 945-954, doi 10.1007/s00477-012-0616-7
39. Bianchi Janetti E., I. Dror, M. Riva, A. Guadagnini, X. Sanchez-Vila, B. Berkowitz (2013) Mobility and interaction of heavy metals in natural soils, *Transport in porous media*, 97:295-315, doi: 10.1007/s11242-013-0125-2
40. Riva M., S. Mambretti, S. Chaynikov, P. Ackerer, O. Fasunwon, A. Guadagnini (2013) A new general analytical solution for infiltration structures design, *Journal of hydraulic engineering*, 139(6), 637-644, doi:10.1061/(ASCE)HY.1943-7900.0000718.
41. De Barros F., A. Guadagnini, D. Fernandez Garcia, M. Riva, X. Sanchez-Vila (2013) Controlling Scaling Metrics for Improved Characterization of Well-Head Protection Regions, *Journal of Hydrology*, 494, 107-115, doi: 10.1016/j.jhydrol.2013.04.040.
42. Porta G., Chaynikov S., Riva M., and Guadagnini A. (2013) Upscaling solute transport in porous media from the pore scale to dual- and multi- continuum formulations, *Water Resour. Res.*, 49, 1-15 doi: 10.1002/wrcr.20183

43. Riva M., S.P. Neuman, A. Guadagnini, M. Siena (2013) Anisotropic scaling of Berea sandstone log air permeabilities statistics, *Vadose Zone Journal*, 12(3), doi: 10.2136/vzj2012.0153
44. Riva M., S.P. Neuman, A. Guadagnini (2013) On the identification of Dragon Kings among extreme valued outliers , *Nonlinear Processes in Geophysics*, 20(4), 549-561, doi: 10.5194/npg-20-549-2013
45. Porta G.M., S. Chaynikov, J.-F. Thovert, M. Riva, A. Guadagnini, P.M. Adler (2013) Numerical investigation of pore and continuum scale formulations of bimolecular reactive transport in porous media, *Adv. Water Res.*, 62, 243-253, doi: 10.1016/j.advwatres.2013.09.007
46. Guadagnini, A., S.P. Neuman, M.G. Schaap and M. Riva (2013) Anisotropic statistical scaling of vadose zone hydraulic property estimates near Maricopa, Arizona, *Water Resour. Res.*, 49, doi:10.1002/2013WR014286.
47. Guadagnini, A., S.P. Neuman, M.G. Schaap and M. Riva (2014) Anisotropic statistical scaling of soil and sediment texture in a stratified deep vadose zone near Maricopa, Arizona, *Geoderma*, 214, 217-227, doi: 10.1016/j.geoderma.2013.09.008
48. Perulero Serrano R., L. Guadagnini, M. Riva, M. Giudici, A. Guadagnini (2014) Impact of two different geostatistical hydro-facies simulation strategies on head statistics under non-uniform groundwater flow conditions, *Journal of Hydrology*, 508, 343-355, doi: 10.1016/j.jhydrol.2013.11.009
49. Siena M., Riva M., Hyman J. D., Winter C. L. and A. Guadagnini (2014) Relationship between pore size and velocity probability distributions in stochastically generated porous media, *Physical Review E*, 89(1), 013018, doi: 10.1103/PhysRevE.89.013018
50. Guadagnini A., M. J. Blunt, M. Riva, B. Bijeljic (2014) Statistical Scaling of Geometric Characteristics in Millimeter Scale Natural Porous Media, *Transport in Porous Media*, 101(3), 465-475, doi: 10.1007/s11242-013-0254-7
51. Panzeri, M., M. Riva, A. Guadagnini, and S. P. Neuman (2014), Comparison of Ensemble Kalman Filter groundwater-data assimilation methods based on stochastic moment equations and Monte Carlo simulation, *Adv. Water Res.*, 66, 8-16, doi: 10.1016/j.advwatres.2014.01.007
52. Riva M., X. Sanchez-Vila, A. Guadagnini (2014), Estimation of spatial covariance of log conductivity from particle size data, *Water Resour. Res.*, 50, doi:10.1002/2014WR015566.
53. Siena M., A. Guadagnini, Riva M., Bijeljic B., Pereira Nunes J. P. and Blunt M.J. (2014) Statistical scaling of pore-scale Lagrangian velocities in natural porous media, *Physical Review E*, 90, 023013, doi: 10.1103/PhysRevE.90.023013.
54. Porta G.M., L. Tamellini, V. Lever, M. Riva (2014) Inverse modeling of geochemical and mechanical compaction in sedimentary basins through Polynomial Chaos Expansion, *Water Resour. Res.*, 50, 12, 9414-9431, doi: 10.1002/2014WR015838.
55. Odling N.E., R.P. Serrano, M.E.A. Hussein, M. Riva, A. Guadagnini (2015) Detecting the vulnerability of groundwater in semi-confined aquifers using barometric response functions, *Journal of Hydrology*, 520, 143-156.
56. Bianchi Janetti E., M. Riva, A. Guadagnini (2015) Three-phase Permeabilities: upscaling, analytical solutions and uncertainty analysis in elementary pore structures, *Transport in porous media*, 106, 2, 259-283, doi 10.1007/s11242-014-0400-x
57. Riva M., A. Guadagnini, A. Dell'Oca (2015) Probabilistic assessment of seawater intrusion under multiple sources of uncertainty, *Adv. Water Res.*, 75, 93-104, doi:10.1016/j.advwatres.2014.11.002
58. Guadagnini A., S. P. Neuman, T. Nan, M. Riva, C. L. Winter (2015), Scalable statistics of correlated random variables and extremes applied to deep borehole porosities, *Hydrol. Earth Syst. Sci.*, 19, 1-17, doi:10.5194/hess-19-1-2015.
59. Panzeri, M., M. Riva, A. Guadagnini, and S. P. Neuman (2015), EnKF coupled with groundwater flow moment equations applied to Lauswiesen aquifer, Germany, *Journal of Hydrology*, 521, 01, 205-216, doi: 10.1016/j.jhydrol.2014.11.057
60. Ranaee E., G. M. Porta, M. Riva, M. J. Blunt, A. Guadagnini (2015), Prediction of three-phase oil relative permeability through a sigmoid-based model. *J. Petrol.Sci. Eng.*, 126, 190-200, doi: 10.1016/j.petrol.2014.11.034
61. Garing C., P. Gouze, M. Kassab, M. Riva, A. Guadagnini (2015) Anti-correlated Porosity-Permeability Changes During the Dissolution of Carbonate Rocks: Experimental Evidences and Modeling, *Transport in porous media*, 107, 2, 595-621, doi 10.1007/s11242-015-0456-2.
62. Siena M., J. D. Hyman, M. Riva, A. Guadagnini, C. L. Winter, P. K. Smolarkiewicz, P. Gouze, S. Sadhukhan, F. Inzoli, G. Guédon, and E. Colombo (2015), Direct Numerical Simulation of Fully-Saturated Flow in Natural Porous Media at the Pore-Scale: A Comparison of Three Computational Systems, *Computational Geosciences*, 19, 2, 423-437, doi 10.1007/s10596-015-9486-7.
63. Riva M., S. P. Neuman, A. Guadagnini (2015), New scaling model for variables and increments with heavy-tailed distributions, *Water Resour. Res.*, 51, 4623-4634, doi:10.1002/2015WR016998.
64. Riva M., M. Panzeri, A. Guadagnini, S. P. Neuman (2015), Simulation and analysis of scalable non-Gaussian statistically anisotropic random functions, *J. Hydrol.*, 531 Part 1, 88-95, doi:10.1016/j.jhydrol.2015.06.066.

65. Panzeri M., E.L. della Rossa, L. Dovera, M. Riva, A. Guadagnini (2016), Integration of Markov mesh models and data assimilation techniques in complex reservoirs, *Computational Geosciences*, 20(3), 637-653, doi 10.1007/s10596-015-9540-5.
66. Panzeri M., M. Riva, A. Guadagnini, S.P. Neuman (2016), Theory and generation of conditional, scalable sub-Gaussian random fields, *Water Resour. Res.*, 52, doi: 10.1002/2015WR018348.
67. Marinoni M., F., Delay, P. Ackerer, M. Riva, A. Guadagnini, S.P. Neuman (2016), Identification of groundwater parameters using reciprocal data from hydraulic inference tests, *J. Hydrol.*, 539, 88-101, doi:10.1016/j.jhydrol.2016.05.019.
68. Bianchi Janetti E., M. Riva, A. Guadagnini (2016) Analytical expressions for three-phase generalized relative permeabilities in water- and oil-wet capillary tubes, *Computational Geosciences*, 20(3), 555-565, doi: 10.1007/s10596-015-9508-5.
69. Ranaee E., M. Riva, G. M. Porta, A. Guadagnini (2016), Comparative Assessment of Three-Phase Oil Relative Permeability Models, *Water Resour. Res.*, 52, doi: 10.1002/2016WR018872.
70. Riva M., A. Guadagnini, S. P. Neuman, (2017), Theoretical analysis of non-Gaussian heterogeneity effects on subsurface flow and transport, *Water Resour. Res.*, 53(4), 2298-3012, doi:10.1002/2016WR019353.
71. Bianchi Janetti E., M. Riva, A. Guadagnini (2017) Effects of Pore-Scale Geometry and Wettability on Two-Phase Relative Permeabilities within Elementary Cells, *Water*, 9, 252, doi: 10.3390/w9040252.
72. Libera A., de Barros F.P.J, M. Riva, Guadagnini A (2017), Solute concentration at a well in a non-Gaussian aquifer under constant and time-varying pumping schedule, *J. Contam. Hydrol.*, 205, 37-46, doi: 10.1016/j.jconhyd.2017.08.006.
73. Ranaee E., L. Moghadasi, F. Inzoli, M. Riva, A. Guadagnini (2017), Identifiability of parameters of three-phase oil relative permeability models under simultaneous water and gas (SWAG) injection. *J. Petrol.Sci. Eng.*, 159, 942-951, doi: 10.1016/j.petrol.2017.09.062
74. Dell'Oca A., M. Riva, A. Guadagnini (2017) Moment-based Metrics for Global Sensitivity Analysis of Hydrological Systems, *Hydrol. Earth Syst. Sci.*, 21, 6219–6234, doi:10.5194/hess-21-6219-2017.
75. Guédon G., J. Hyman, F. Inzoli, M. Riva, A. Guadagnini (2017) Influence of capillary end effects on steady-state relative permeability estimates from direct pore-scale simulations, *Physics of Fluids*, 29, 123104, doi:10.1063/1.5009075
76. Dell'Oca A., M. Riva, J. Carrera, A. Guadagnini (2018) Solute dispersion for stable density-driven flow in randomly heterogeneous porous media, *Adv. Water Res*, 111, 329–345, doi: 10.1016/j.advwatres.2017.10.040.
77. Dell'Oca, A.; Porta, G.M.; Guadagnini, A.; Riva, M. (2018) Space-time mesh adaptation for solute transport in randomly heterogeneous porous media, *J. Contam. Hydrol.*, 212, 28-40, doi: 10.1016/j.jconhyd.2017.07.001.
78. Guadagnini A., M. Riva, S.P. Neuman (2018) Recent Advances in Scalable Non-Gaussian Geostatistics: The Generalized Sub-Gaussian Model, *J. of Hydrology*, 562, 685-691.
79. Siena M., M. Riva (2018), Groundwater withdrawals in randomly heterogeneous coastal aquifers, *Hydrol. Earth Syst. Sci.*, 22, 1-15, doi: 10.5194/hess-22-1-2.
80. Siena M., M. Riva, M. Giamberini, P. Gouze, A. Guadagnini (2018) Statistical modeling of gas-permeability spatial variability along a limestone core, *Spatial Statistics, in press*, doi: 10.1016/j.spasta.2017.07.007.
81. Ranaee E., F. Inzoli, M. Riva, A. Guadagnini (2019) Hysteresis effects of three-phase relative permeabilities on black-oil reservoir simulation under WAG injection protocols. *J. Petrol.Sci. Eng.*, 176, 1161-1174, doi: 10.1016/j.petrol.2019.01.044.
82. Siena M., O. Iliev, T. Prill, M. Riva, A. Guadagnini (2019) Identification of Channeling in Pore-Scale Flows, *Geophysical Research Letters*, in press, doi: 10.1029/2018GL081697.
83. Dell'Oca A., A. Guadagnini, M. Riva, P. Ackerer, (2019) Solute transport in random composite media with uncertain dispersivity, *Adv. Water Res*, in press.
84. Bianchi Janetti E., L. Guadagnini, M. Riva, A. Guadagnini (2019) Global sensitivity analyses of multiple conceptual models with uncertain parameters driving groundwater flow in a regional-scale sedimentary aquifer, *J. of Hydrology*, in press.

Book Chapters

1. Neuman, S.P., A. Guadagnini, M. Riva, and M. Siena (2013), Recent Advances in Statistical and scaling analysis of earth and environmental variables, in: P.K. Mishra and K.L. Kuhlman, editors, *Recent advances in hydrogeology*. Springer Science+Business Media New York, 1-25, doi: 10.1007/978-1-4614-6479-2_1.
2. Nan, T., S.P. Neuman, M. Riva, and A. Guadagnini (2016), Analyzing randomly fluctuating hierarchical variables and extremes, in: J.H. Cushman and D.M. Tartakovsky (Eds.), *The Handbook of Groundwater Engineering*, Third Edition. CRC Press, Taylor & Francis Group, New York, 443-457. ISBN 9781498703048 - CAT# K24643

Publications on books

1. Riva M., A. Guadagnini, D.M. Tartakovsky, S.P. Neuman (2000), Three-dimensional steady state flow to a well in a randomly heterogeneous aquifer, presented at the *International Conference on Calibration and Reliability in groundwater modelling, ModelCARE99*, IAHS Publ. No. 265, 131-136.
2. Riva M., L. Guadagnini, E. Martac, T. Ptak (2005), Stochastic modeling of well head protection zones in highly heterogeneous aquifers, presented at the *4th International Groundwater Quality Conference, GQ2004*, IAHS Publ. 297, 449-457, Waterloo, Ontario, Canada.
3. Riva M., L. Guadagnini, A. Guadagnini, E. Martac, T. Ptak (2006), A composite medium approach for probabilistic modelling of contaminant travel time distribution to a pumping well in a heterogeneous aquifer, presented at the *5th International Conference on Calibration and Reliability in groundwater modelling, ModelCARE05*, The Hague, IAHS Publ. 304, pp 227-233.
4. Riva M., A. Guadagnini (2006), Recharge fronts and stagnation areas for pumping wells, presented at the *5th International Conference on Calibration and Reliability in groundwater modelling, ModelCARE05* (invited), The Hague, IAHS Publ. 304, pp234- 239.
5. Bakr M. I., A. Butler, A. Guadagnini, M. Riva (2006), State-space first-order estimate of well catchment uncertainty, presented at the *5th International Conference on Calibration and Reliability in groundwater modelling, ModelCARE05*, The Hague, giugno, IAHS Publ. 304, pp189- 195.
6. Neuman SP., M. Riva, A. Guadagnini (2008), On the geostatistical characterization of hierarchical media, *6th International Conference on Calibration and Reliability in groundwater modeling: Credibility of Modelling, ModelCARE07* (invited), Copenhagen, , IAHS Publ. 320, pp3- 8,.
7. Riva M., A. Guadagnini, S.P. Neuman (2008), Characterizing the spatial variability of transmissivity using stochastic type-curves and numerical inverse analyses of data from a sequence of pumping tests, presented at the *6th International Conference on Calibration and Reliability in groundwater modeling: Credibility of Modelling, ModelCARE07* (invited), Copenhagen, IAHS Publ. 320, pp39-44.
8. Panzeri M., Guadagnini A., Riva M. (2012) Optimization of pilot points location for geostatistical inversion of groundwater flow, presented at the *ModelCARE2011*, Leipzig, IAHS Publ. 355 Models repositories of knowledge, pp34-40.
9. Guadagnini A., S. P. Neuman, M. G. Schaap, M. Riva (2015), Alternative to Multifractal Analysis of Scalable Random Variables Applied to Measured and Estimated Soil Properties at an Arizona Field Site, *Advances in Intelligent Systems and Computing*, vol. 319, Springer, M. S. Obaidat, S. Koziel, J. Kacprzyk, · L. Leifsson and T. Ören Editors, 133-144, DOI 10.1007/978-3-319-11457-6

Paper in Italian Journals

1. Riva, M., L. Guadagnini, A. Guadagnini (2006), Caratterizzazione geostatistica dell'acquifero sperimentale di Lauswiesen, *L'acqua*, 57-62, ISSN: 1125-1255.

Paper in Proceedings of international conferences

1. Tartakovsky D.M., A. Guadagnini, M. Riva (1999), Stochastic analysis of effective conductivity in bounded, randomly heterogeneous aquifers with pumping, *5th Annual Conference of the International Association for Mathematical Geology (IAMG99)*, Trondheim, Norway, Vol. II, 761-766.
2. Riva M., C. Tei (2001), Radial flow in a bounded randomly heterogeneous aquifer with recharge, *Third European Conference on Geostatistics for Environmental Applications, geoenv2000*, 239-250, Avignon, Kluwer Academic Publishers.
3. Guadagnini A., M. Riva, S. Franzetti (2001), Statistics of hydraulic head in randomly heterogeneous well fields with truncated multiscale variogram, *XXIX IAHR Congress*, Guifen LI Ed., Theme A, 325 – 331, Tsinghua University Press, Beijing, China.
4. Malavasi S., M. Riva, M. Vanali, L. Larcán (2001), Hydrodynamics forces on a submerged bridge, *First International Conference on Fluid Structure Interaction*, 26-28 Settembre, 45 – 54, WIT press.
5. Guadagnini, A., M. Riva, S. Franzetti (2001), Flow to a well in a randomly heterogeneous aquifer with truncated multiscale variogram, *XIV Intern. Conf. Computational Methods in Water Resources*, Vol. 2, 1299 – 1306, *Delft*, Elsevier.
6. Martac E., L. Guadagnini, M. Riva, T. Ptak (2003), Multivariate geostatistical parameterization approach for 3D transient stochastic modeling of wellhead protection zones in a highly heterogeneous aquifer, *MODFLOW and MORE 2003 Understanding through Modelling*, Poeter, Zheng, Hill Doherty, International Ground Water Modeling Center (IGWMC), Colorado School of Mines, 686-690.

7. Riva M., X. Sanchez-Vila, M. De Simoni, A. Guadagnini, M. Willmann (2004), Effect of heterogeneity on aquifer reclamation time, 4th European Conference on Geostatistics for Environmental Applications, *geoENV2002*, 259-270, Kluwer Academic Publishers.
8. Riva M., M. De Simoni, M. Willmann (2005), Impact of the choice of the variogram model on flow and travel time predictors in radial flows, Fifth European Conference on Geostatistics for Environmental Applications, *geoENV2004*, 273-284, Neuchâtel, , Springer Berlin Heidelberg.
9. Riva M., A. Guadagnini, X. Sanchez-Vila (2008), Effect of sorption processes on pump-and-treat remediation practices under heterogeneous conditions., 6th European Conference on Geostatistics for Environmental Applications, *geoENV2006*, editors by A. Soares, M. J. Pereira, R. Dimitrakopoulos: Springer, Vol 15 part II, 153-164, Rodi.
10. De Gaspari, F., M. Riva, A. Alcolea, and A. Guadagnini (2010), Computationally efficient inversion of steady-state stochastic moment equations of groundwater flow, *XVIII International Conference on Water Resources*, CMWR 2010, J. Carrera (Ed), proceedings on CD-ROM, CIMNE, Barcelona 2010
11. Cadini, F., D. Avram, A. Cherubini, J. De Sanctis, E. Zio, A. Guadagnini, M. Riva, A. Luce (2010), and A. Taglioni, An integrated simulation model for the performance assessment of a radioactive waste repository, *XVIII International Conference on Water Resources*, CMWR 2010, J. Carrera (Ed), proceedings on CD-ROM, CIMNE, Barcelona 2010.
12. Perulero Serrano R., L. Guadagnini, M. Giudici, A. Guadagnini, M. Riva (2012). Application of the Truncated Plurigaussian Method to delineate hydrofacies distribution in heterogeneous aquifers. In: *XIX International Conference on Water Resources*, CMWR 2012. Urbana-Champaign, Illinois, USA, June 2012, p. 952-959, A.J. Valocchi
13. Lever V., G. Porta, M. Riva, I. Imperiali, G. Scrofani, P. Ruffo, A. Scott (2013), Preliminary Analysis of Diagenetic Effects on Basin Scale Overpressure Dynamics, 6th International Petroleum Technology Conference, Mar 26 - 28, Beijing, China
14. M. Siena, A. Guadagnini, M. Riva, P. Gouze, P.K. Smolarkiewicz, C.L. Winter, J.D. Hyman, F. Inzoli, G.R. Guédon, E. Colombo (2013), A comparison of body-fitted and immersed boundary methods for pore-scale modeling of fully saturated flow in synthetic porous media, *IAHR International Groundwater Symposium - Modeling and Management under Uncertainty*, 241-249 (proceedings on CD-ROM), K. Hadi and N.K. Copty (Eds), CRC Press, Taylor and Francis Group, June 19 - 21, Kuwait City
15. A. Guadagnini, M. Riva, S.P. Neuman, M. Siena (2013), A new approach to hydrological scaling, *IAHR International Groundwater Symposium - Modeling and Management under Uncertainty*, 269-280 (proceedings on CD-ROM), invited, K. Hadi and N.K. Copty (Eds), CRC Press, Taylor and Francis Group, June 19 - 21, Kuwait City
16. Guadagnini A., S.P. Neuman, M.G. Schaap, M. Riva (2013), Statistical and scaling analyses of neural network soil property inputs/outputs at an Arizona field site, *Proc. SIMULTECH 2013 - 3rd Int'l Conf. on Simulation and Modeling Methodologies, Technologies and Applications*, 489-494, July 29-31, Reykjavik, Iceland.
17. Scrofani G., P. Ruffo, G. Porta, M. Riva, V. Lever, A. Scotti, I. Imperiali (2013) Preliminary analysis of diagenesis effects on basin scale over pressure dynamics, *Proc IPTC 2013 – International Petroleum Technology conference, Challenging Technology and Economic Limits to Meet the Global Energy Demand*, Beijing; China; 26-28 March 2013 Code 98701
18. Guadagnini A., S.P. Neuman, M.G. Schaap, M. Riva (2014), Frequency distribution and scaling of soil texture and hydraulic properties in a stratified deep vadose zone near Maricopa, Arizona, 15th Annual Conference of the International-Association-for-Mathematical-Geosciences (IAMG), *Mathematics of planet Earth*, Book Series: Lecture Notes in Earth Sciences, 189-192, Springer-Verlag Berlin, DOI: 10.1007/978-3-642-32408-6_44
19. Panzeri M., Riva M., Guadagnini A., S.P. Neuman, (2014), Ensemble Kalman Filter Assimilation of Transient Groundwater Flow Data: Stochastic Moment Solution Versus Traditional Monte Carlo Approach, 15th Annual Conference of the International-Association-for-Mathematical-Geosciences (IAMG), *Mathematics of planet Earth*, Book Series: Lecture Notes in Earth Sciences, 407-410, Springer-Verlag Berlin, DOI: 10.1007/978-3-642-32408-6_44
20. Panzeri M., Della Rossa E., Dovera L., Riva M., Guadagnini A., (2014) Integration of Markov Mesh models and ensemble data assimilation in reservoir with complex geology, 14th European Conference on Mathematics of Oil recovery (ECMOR 2014), Catania 8-11 September 2014, Article number B07. Publisher: European Association of Geoscientists and Engineers, EAGE E, The Netherlands, September
21. Janetti Bianchi E., Riva M., Guadagnini A., (2014) Analytical expressions for upscaled relative permeabilities in three-phase flow, 14th European Conference on Mathematics of Oil recovery (ECMOR 2014), Catania 8-11 September 2014, Article number A26

22. Rane E., Porta G., Riva M., Guadagnini A., (2014) Investigation of saturation dependency of oil relative permeability during WAG process through linear and non-linear PCA, 14th European Conference on Mathematics of Oil recovery (ECMOR 2014), Catania 8-11 September 2014, Article number P13.
23. Gläser, D.; Dell'Oca, A.; Tatmir, A.; Bensabat, J.; Class, H.; Guadagnini, A.; Helmig, R.; McDermott, C.; Riva, M.; Sauter, M. (2017) An Approach Towards a FEP-based Model for Risk Assessment for Hydraulic Fracturing Operation, European Geosciences Union General Assembly 2016, EGU Division Energy, Resources and the Environment, ERE 2016; Vienna; Austria; 17 April 2016 through 22 April 2016; Code 121640, *Energy Procedia*, vol 97, 387-394, doi: 10.1016/j.egypro.2016.10.030
24. Rane E., Inzoli F., Riva M., Cominelli A., Guadagnini A., (2018) Propagation to reservoir simulation of uncertainty associated with three-phase relative permeability models with hysteresis, 80th EAGE Conference&Exhibition, Copenhagen, Denmark, 11-14 June, We J 15, SPE-190825-MS, 1-14.
25. Rane E., Inzoli F., Riva M., Maddinelli G., Cominelli A., Guadagnini A., (2018) Numerical assessment of water alternating gas practices in the presence of hysteresis effects on relative permeability, 15th European Conference on the Mathematics of Oil Recovery, ECMOR 2018, Barcelona, Spain, 3-6 September, 139437.

Paper in Proceedings of Italian conferences

1. Franzetti S., A. Guadagnini, M. Riva (1997), Conduttività idraulica di un campo confinato eterogeneo con flusso mediamente radiale, *Atti del IX Congresso del Consiglio Nazionale dei Geologi*, Vol. 1, 405-409, Roma.
2. Franzetti S., M. Riva (1998), Protezione Dinamica di Pozzi Emungenti in Formazioni ad Eterogeneità Random, *XXVI Convegno di idraulica e costruzioni idrauliche*, Vol.1, 561-572, Catania.
3. Franzetti S., A. Guadagnini, M. Riva (2000), Flussi radiali in formazioni porose eterogenee di estensione finita, *XXVII Convegno di Idraulica e Costruzioni Idrauliche*, Vol. 1, p. 473 - 480, Genova.
4. Riva M., S. Franzetti, A. Guadagnini (2002), Conduttività idraulica equivalente in acquiferi eterogenei tridimensionali, *XXVIII Convegno di Idraulica e Costruzioni Idrauliche*, Vol 2, 71-78, Potenza.
5. Guadagnini L., M. Riva, S. Franzetti (2004), Perimetrazione di zone di cattura probabilistiche in un acquifero eterogeneo, *XXIX Convegno di Idraulica e Costruzioni Idrauliche*, Vol 2, 603-610, Trento, ISBN: 88-7740-382-9.
6. Riva, M., A. Guadagnini, I. Battiato, and X. Sánchez-Vila (2006), Trasporto reattivo in formazioni eterogenee con moto forzato, in *Atti del XXX Convegno di Idraulica e Costruzioni Idrauliche*, Casa Editrice Università degli Studi di Roma "La Sapienza", 207 (full paper on CD-ROM).
7. Riva, M., A. Guadagnini, S.P. Neuman, and T. Ptak (2007), Caratterizzazione geostatistica delle proprietà idrauliche di un acquifero alluvionale utilizzando dati di prove di emungimento, in *Atti del Convegno Approvvigionamento e Distribuzione Idrica: Esperienza, Ricerca ed Innovazione*, Ferrara, 28-29 Giugno 2007, Morlacchi Editore, Perugia, 331-342, 2007
8. Riva, M., L. Guadagnini, A. Guadagnini, (2010), Prove di campo con traccianti: effetto dell'incertezza nella caratterizzazione litologica e nella distribuzione delle proprietà, in *Atti del XXXII Convegno di Idraulica e Costruzioni Idrauliche*, Walter Farina Ed., 248 (full paper on CD-ROM).
9. Chidichimo, F., F. Saraceni, M. Riva, S. Straface, and A. Guadagnini (2010), Caratterizzazione di un sito sperimentale sedimentario sulla base di informazioni sedimentologiche e geofisiche, in *Atti del XXXII Convegno di Idraulica e Costruzioni Idrauliche*, Walter Farina Ed., 242 (full paper on CD-ROM).
10. Guadagnini A., M. Riva, L. Guadagnini (2010) Modeling dissolution experiments and heavy metals competition in porous media (Modellazione ed interpretazione di processi di dissoluzione e di assorbimento competitive di metallici pesanti in mezzi porosi), *Mem. Descr. Carta Geol. D'It.* XC, 121-132, tabb.3.
11. Bianchi Janetti, E., L. Guadagnini, M. Riva, E. Larcán, and A. Guadagnini (2011), Geostatistical characterization of a regional-scale sedimentary aquifer, *Proc. of XX Congresso dell'Associazione Italiana di Meccanica Teorica e Applicata*, Bologna 12-15 September 2011, F. Ubertini, E. Viola, S. de Miranda, G. Castellazzi (Eds.), ISBN 978-88-906340-1-7 (online), 1-10.
12. Guadagnini A., M. Riva, L. Guadagnini (2011) Modeling dissolution experiments and heavy metals competition in porous media, *Proc of GEOITALIA 2009*, Rimini 07-11 September 2009, 121-132
13. Bianchi Janetti, E., M. Riva, E. (2014), Upscaling e analisi di sensitività di permeabilità multifase in sistemi di tubi capillari, *XXXIV Convegno di Idraulica e Costruzioni Idrauliche*, Bari, 8-10 settembre 2014.