



Europass Curriculum Vitae



Personal information

Surname / First name **Romano Emanuele**
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 Nationality Italian

Current Position **Researcher at the Water Research Institute (National Research Council, Rome).**

Education	
2001- 2005	PhD in Earth Sciences , University of Milan (Italy). Thesis title: "Development and calibration of water flow models at the soil-atmosphere interface and in the unsaturated zone". Advisor: prof. Mauro Giudici. Final grade: excellent.
2000-2001	Master in "Hydrodynamics in porous media" , University of Milan (Italy). Advisor: prof. M. Giudici. Thesis title: "Nested models: theoretical basis and applications".
1991-1999	Degree in Physics , University of Milan (Italy). Thesis title: Study of the water flow in mountains slopes. Supervisor: prof. Giansilvio Ponzini. Final grade: 109/110
1986-1991	High School Degree in Humanities , Liceo Classico "Cesare Beccaria", Milan. Final grade: 60/60

Research Activities	
2008 - present	Researcher at the Water Research Institute (National Research Council, Rome).
2019-present Occupation or position held	Work Package Leader and Scientific Coordinator of the project INOPIA^{QGIS} . "Agreement between Civil Protection Department and Water Research Institute." - Research line 1: computer systems for the early detection of water shortage conditions. Funding Institution: National Civil Protection Department
Main activities and responsibilities	Coordinator of the scientific activities
2016-present Occupation or position held	Work Package Leader of the Project SWARMNET . OR8 Development of innovative monitoring and management systems of extreme weather events (floods, drought, snow, etc.)
Main activities and responsibilities	Coordinator of the scientific activities in the areas of Perugia (Umbria region) and Lecce (Apulia region)
2013-2015	

Occupation or position held	Member of the research team of the project DRINKADRIA . Funding Institution: EU
Main activities and responsibilities	Assessment of the impact of climate change on the Ostuni aquifer (Apulia)
2010 - 2014 Occupation or position held	Scientific Coordinator of the research project PETRIGNANO . Funding Institution: Umbria Region (Italy).
Main activities and responsibilities	Numerical model for assessing path of contamination in the alluvial aquifer of the Valle Umbra and biological characterization aiming at verifying possible natural decontamination.
2014 Occupation or position held	Scientific Coordinator of the project VALLAGARINA . Funding Institution: SWS Engineering srl (Trento, Italy).
Main activities and responsibilities	Development of a 3D groundwater flow model of the aquifer located in the areas of Nomi, Chiusole and Volano (TN).
2007 - 2014 Occupation or position held	Work Package Leader of the project “ Agreement between Civil Protection Department and Water Research Institute. ” Funding Institution: National Civil Protection Department
Main activities and responsibilities	Methodologies for monitoring water resources and forecasting water scarcity conditions. Project Coordinator: eng. Michele Vurro (IRSA-CNR)
2009 - 2011 Occupation or position held	Member of the research team of the project SECLI . Funding Institution: Umbria Region
Main activities and responsibilities	Drought and Climate change. Forecasting the water resources of the Umbria Region under changing climate conditions. Work Package Leader: Elisabetta Preziosi (IRSA-CNR). Scientific Coordinator: eng. Tommaso Moramarco (IRPI-CNR)
2008 - 2009 Occupation or position held	Member of the research team of the project SICCITA' . Funding Institution: Umbria Region
Main activities and responsibilities	Vulnerability of water supply systems in the Tiber basin related to possible scarcity conditions. Assessment of prevention and mitigation activity”. Research leaders: dr. Elisabetta Preziosi (IRSA-CNR); eng. Remo Pelillo (Tiber Basin Authority)
2007 - 2009 Occupation or position held	Member of the research team of the European Project AQUASTRESS
Main activities and responsibilities	Mitigation of water stress through new approaches integrating management, technical, economic and institutional instruments. Project coordinator: dr. Alberto Puddu (IRSA-CNR). Funding Institution: European Committee.

2005- 2007	Post-doc position at the Water Research Institute (National Research Council, Rome).
2005 - 2007 Occupation or position held	Member of the research team of the project “ Agreement on education, research and methodological support for quantitative groundwater monitoring activity by means of hydrogeological modelling ”. Funding Institution: Umbria Region
Main activities and responsibilities	Numerical simulation of the water flow in the Petrignano d'Assisi Aquifer. Research coordinators: dr. Elisabetta Preziosi (IRSA-CNR), dr. Angiolo Martinelli (ARPA Umbria)

2000 – 2001	Research Assistant at the Department of Earth Sciences (University of Milan)
2000 - 2001 Occupation or position held	Member of the research team of the project ““ Study of the aquifer systems by experimental and modelling techniques. ”
Main activities and responsibilities	Development and calibration of groundwater flow models of the aquifer of Milano at different space scales. Research coordinators: prof. Giansilvio Ponzini (University of Milan); dr. Cristina Arduini (Groundwater Information System, Province of Milan)

Institutional Activities	
2018-present	Member of the Coordination Committee of the Italian Hydrographic Districts Permanent Observatories
2017-present	Member of the Permanent Observatory of the South Apennine Hydrographic District
2017-present	Member of the Permanent Observatory of the Central Apennine Hydrographic District

University Teaching Activities	
A.Y. 2018-2019 A.Y. 2017-2018 A.Y. 2016-2017 A.Y. 2015-2016 A.Y. 2014-2015 A.Y. 2013-2014	Teaching of the class “Hydrogeological Modeling” for the Degree in Engineering Geology at the University “La Sapienza” of Rome
A.Y. 2009-2010	Teaching of the class “Hydrological Mapping and GIS” for the Degree in Earth Sciences at the University “La Sapienza” of Rome
A.Y. 2008-2009	Teaching of the class “Data processing” for the Degree in Earth Sciences at the University “La Sapienza” of Rome
A.Y. 2010 - present	Research and thesis advisor and co-advisor at the University Rome 3, Civil Engineering Department
A.Y 2005 - present	Research and thesis advisor and co-advisor at the University “La Sapienza” of Rome, Earth Science Department
A.Y.2001 - 2004	Teaching assistant for the following courses: Earth Physics for the Degree in Physics (University of Milan; professor: Giansilvio Ponzini) Introduction to flow groundwater modelling (Geological Survey of the Emilia-Romagna Region. Organizer: dr. Paolo Severi) Laboratory of Earth Physics for the Degree in Physics (University of Milan; professor: Mauro Giudici) Groundwater Hydrology for the degree in Environmental Engineering (Politecnico of Milan; professor: Mauro Giudici) Numerical Modelling for the Master “Professione Geologo” (University of Milan)
A.Y. 2001-2004	Research and thesis co-advisor at the University of Milan, Dept. of Physics

Professional Activities	
June – November 2006 Occupation or position held Main activities and responsibilities	Scientific consultant for the University “La Sapienza” of Rome. Development of a groundwater numerical model of the aquifer of the area “ex-chimica Bianchi” (Rho, MI). Activity leaders: prof. Francesca Bozzano, prof. Marco Petitta.
October 2005 Occupation or position held Main activities and responsibilities	Scientific consultant for the geological office “Idrogeologia Ambientale (Eboli)”. Development of a groundwater numerical model of the coastal area “ex Yard Belleli” (Taranto). Activity leader: Sviluppo Italia Aree Produttive S.p.A..
October 2004 – March 2005 Occupation or position held Main activities and responsibilities	Scientific consultant for the University “La Sapienza” of Rome. Development of a groundwater numerical model of the Gela plain aquifer”. Activity leaders: prof. Francesca Bozzano, prof. Marco Petitta, prof. Gabriele Scarascia-Mugnozza.
February-May 2002 Occupation or position held	Scientific consultant for the information office “AES Automation Engineering Services (Milano)”.

Main activities and responsibilities

Development of a groundwater numerical model of the Bagnoli-Fuorigrotta aquifer system.

Training

July 2011	Advanced course: International Summer School on Monitoring and Modeling Surface Hydrological Processes, Department of Environmental Engineering and Physics – UniBas (40 hours)
June 2010	Advanced course: CoMeVa...la ricerca. Management of Research course. CNR, Genova (40 hours)
September 2006	Advanced course: Advanced numerical modelling of flow and transport in soils and aquifers at the Geotechnologies. Center of the University of Siena (Italy) (40 hours)
October 2003	Advanced course: Hydrofacies Modelling with TProGS, a geostatistical approach based on Transition Probability and Markov Chains presso FIVA, International Research School of Water Resources, Copenhagen, DK. (40 hours)
January-March 2003	Advanced course: Cycle de Formation Spécialisée en Géostatistique at the Centre of Geostatistics of the Ecole des Mines de Paris (Fr). Final grades: Non-linear Geostatistics: 18/20. Multivariate Geostatistics: 19/20 (250 hours)
November 2002	Advanced course: The Fortran 90 at the Consorzio Interuniversitario Lombardo per l'Elaborazione Automatica, Segrate (Milano) (35 hours)
April-June 2001	Training at the Groundwater Information System of the Province of Milano. Activity leader: dr. Cristina Arduini
May-July 1998	Training at the Earth Science Institute of the Scuola Universitaria Professionale della Svizzera Italiana (Cadenazzo, CH). Activity Leader: dr. Giorgio Beatrizzotti

Publications

Guyennon, N., M. Valt, F. Salerno, A.B. Petrangeli, **E. Romano** (submitted). *Estimating the snow water equivalent from snow depth measurements in the Italian Alps*. Cold Regions

Romano E., J. Jiménez-Martínez, A. Parmigiani, X. Z. Kong, I. Battiato (2019). Editorial. Contribution of Pore-Scale Approach to Macroscale Geofluids Modelling in Porous Media, *Geofluids*, 2019, 6305391. doi: 10.1155/2019/6305391

Di Palma P.R., N. Guyennon, A. Parmigiani, C. Huber, F. Heße, **E. Romano** (2019). *Impact of synthetic porous media geometric properties on solute transport using direct 3D pore-scale simulations*. *Geofluids*, 2019, 6810467. doi: 10.1155/2019/6810467

Valt M., N. Guyennon, F. Salerno, A. B. Petrangeli, R. Salvatori, P. Cianfarra, **E. Romano** (2018). *Predicting new snow density in the Italian Alps: A variability analysis based on 10 years of measurements*. *Hydrological Processes*. doi: 10.1002/hyp.13249

Rossi D., **E. Romano**, N. Guyennon, M. Rainaldi, S. Ghergo, A. Mecali, D. Parrone, S. Taviani, A. Scala, E. Perugini (2019). *The present state of Lake Bracciano: hope and despair*. *Rendiconti Lincei. Scienze Fisiche e Naturali*. doi: 10.1007/s12210-018-0733-4

Romano E., N. Guyennon, A. Duro, R. Giordano, A.B. Petrangeli, I. Portoghese, F. Salerno (2018). *A stakeholder oriented Modelling Framework for the Early Detection of Shortage in Water Supply Systems*. *Water*, 10(7262). doi:10.3390/w10060762

Guyennon N., F. Salerno, I. Portoghese, **E. Romano** (2017). *Climate change Adaptation in a Mediterranean semi-arid catchment: testing Managed Aquifer Recharge and Increased Surface Reservoir Capacity*. *Water*, 9(689). doi: 10.3390/w9090689

Romano E., N. Guyennon, A. Del Bon, A.B. Petrangeli, E. Preziosi (2017). *Robust method to quantify the risk of shortage for water supply systems*. *Journal of Hydrologic Engineering*, 22 (8), 04017021 doi: 10.1061/(ASCE)HE.1943-5584.0001540.

- Di Palma P.R., N. Guyennon, F. Hesse, **E. Romano** (2017). *Porous media flux sensitivity to pore-scale geostatistics: A bottom-up approach*. *Advances in Water Resources*, 102, 99–110. doi: 10.1016/j.advwatres.2017.02.002
- Guyennon N., **E. Romano**, I. Portoghese (2016). *Long-term climate sensitivity of an integrated water supply system: The role of irrigation*. *Science of the Total Environment*, 565, 68–81. doi: 10.1016/j.scitotenv.2016.04.157
- Salerno F., N. Guyennon, S. Thakuri, G. Viviano, **E. Romano**, E. Vuillermoz, P. Cristofanelli, P. Stocchi, G. Agrillo, Y. Ma, G. Tartari (2016). *Weak precipitation, warm winters and springs impact glaciers of south slopes of Mt. Everest (central Himalaya) in the last 2 decades (1994-2013)*. *Cryosphere*, 9(3), 1229-1247. doi: 10.5194/tc-9-1229-2015
- Romano E.**, S. Camici, L. Brocca, T. Moramarco, F. Pica, E. Preziosi (2015). *Assessment of the impact of climate change to alluvial aquifers: an uncertainty analysis*. *Advances in Watershed Hydrology* (Moramarco, Barbetta, Brocca Eds). Library of Congress Control Number: 2015934502 Water Resources Publications, LLC P. O. Box 630026, Highlands Ranch, Colorado 80163-0026, USA. ISBN-13: 978-1-887-20185-8. ISBN-10: 1-887201-85-8
- Bozzano F., C. Esposito, S. Franchi, P. Mazzanti, D. Perissin, A. Rocca, **E. Romano** (2015). *Understanding the subsidence process of a quaternary plain by combining geological and hydrogeological modelling with satellite InSAR data: The Acque Albule Plain case study*. *Remote Sensing of Environment*, 168, 219–238. doi: 10.1016/j.rse.2015.07.010
- Bozzano F., C. Esposito, S. Franchi, P. Mazzanti, D. Perissin, A. Rocca, **E. Romano** (2015). *Analysis of a Subsidence Process by Integrating Geological and Hydrogeological Modelling with Satellite InSAR Data*. *Engineering Geology for Society and Territory - Volume 5 - Urban Geology, Sustainable Planning and Landscape Exploitation*, Edited by Lollino, Manconi, Guzzetti, Culshaw, Bobrowsky, Luino, 31, 155-159; Springer International Publishing Switzerland. doi: 10.1007/978-3-319-09048-1_31
- Romano E.**, S. Camici, L. Brocca, T. Moramarco, F. Pica, E. Preziosi (2014). *On the variables to be considered in assessing the impact of climate change to alluvial aquifers: a case study in central Italy*. *Procedia Engineering* 70, 1430 – 1440. doi: 10.1016/j.proeng.2014.02.158
- Di Palma, P.R., **E. Romano**, A. Corazza, A. Duro, F. Campopiano, G. Vacca, E. Preziosi (2014). *Best practices protocol for drinking water supply contamination emergencies*. *Procedia Engineering* 70, 535 – 544. doi: 10.1016/j.proeng.2014.02.059
- Romano E.**, A. Del Bon, A.B. Petrangeli, E. Preziosi (2013). *Generating synthetic time series of springs discharge in relation to standardized precipitation indices. Case study in Central Italy*. *Journal of Hydrology*. 507, 86–99. doi: 10.1016/j.jhydrol.2013.10.020
- Preziosi E., **E. Romano**, S. Polesello (2013). *Early-warning systems for emergencies in water supply*. *Environmental Engineering and Management Journal*. 12(S11), 117-120.
- Romano E.**, E. Preziosi (2013). *Precipitation pattern analysis in the Tiber River basin (central Italy) using standardized indices*. *International Journal of Climatology*. 33 (7) , 1781-1792 doi: 10.1002/joc.3549
- Pica, F., R. Checcucci, E. Preziosi, **E. Romano** (2013). *Decoupling between overlaying aquifers and implications to the risk of contamination: The Umbria Valley case study*. *Rendiconti Online Società Geologica Italiana* 24 , pp. 248-250
- Preziosi E., A. Del Bon, **E. Romano**, A.B. Petrangeli (2013). *Vulnerability to Drought of a Complex Water Supply System. The Upper Tiber Basin Case Study (Central Italy)*. *Water Resource Management*. DOI 10.1007/s11269-013-0434-9
- Giordano R, E. Preziosi, **E. Romano** (2013). *Integration of local and scientific knowledge to support drought impact monitoring: some hints from an Italian case study*, *Natural Hazard*, doi: 10.1007/s11069-013-0724-9
- Guyennon N., **E. Romano**, I. Portoghese, F. Salerno, S. Calmanti, A. B. Petrangeli, G. Tartari, D. Copetti (2013). *Benefits from using combined dynamical-statistical downscaling approaches – lessons from a case study in the Mediterranean region*. *Hydrol. Earth Syst. Sci.*, 17, 705-720. doi: 10.5194/hess-17-705-2013
- Romano E.**, E. Preziosi, A.B. Petrangeli (2011). *Spatial and Time Analysis of Rainfall in the Tiber River Basin (Central Italy) in relation to Discharge Measurements (1920-2010)*. *Procedia Environmental Sciences* , 258–263. doi: 10.1016/j.proenv.2011.07.045
- Romano E.**, E. Preziosi. (2010). *The sustainable pumping rate concept: lessons from a case study in Central Italy*. *Ground Water*, 48, 217-226. doi: 10.1111/j.1745-6584.2009.00628.x
- Preziosi E., **E. Romano**. (2010). *From a hydrostructural analysis to the mathematical modelling of regional aquifers*. *Italian Journal of Engineering Geology and Environment*, 1, 183-198.
- Romano E.**, M. Giudici. (2009). *On the use of meteorological data to assess the evaporation from a bare soil*, *Journal of*

Romano E., M. Giudici (2007). *Experimental and modeling study of the soil-atmosphere interaction and unsaturated water flow to estimate the recharge of a phreatic aquifer*. Journal of Hydrologic Engineering, 12 (6) 573-584. doi: 10.1061/(ASCE)1084-0699(2007)12:6(573)

Giudici M., G. Ponzini, **E. Romano** and C. Vassena. (2007) *Some lessons from modelling ground water flow in the metropolitan area of Milano (Italy) at different scales*. Developments in Aquifer Sedimentology and Ground Water Flow Studies in Italy, (ed. R. Valloni), SELCA eds, Firenze, 212-218.

Menziani M., S. Pugnaghi, **E. Romano**, S. Vincenzi, R. Santangelo. (2007) *Mass balance from the vertical water distribution in the unsaturated soil by TDR measurements and analytical solutions of the linearized Richards equation*. Developments in Aquifer Sedimentology and Ground Water Flow Studies in Italy, (ed. R. Valloni), SELCA eds, Firenze, 267-275.

Menziani M., S. Pugnaghi, **E. Romano** and S. Vincenzi (2004). *Solutions of the linearized Richards equation with arbitrary boundary and initial conditions: flux and soil moisture respectively*, In: Proceedings of the 22nd Annual AGU Hydrology Days (ed. J.A. Ramirez). Civil Engineering Department, Colorado State University, Fort Collins, Co. Colorado (U.S.)

Giudici M., M. Manera, **E. Romano** (2003). *The use of hydrological and geoelectrical data to fix the boundary conditions of a groundwater flow model: a case study*, Hydrology and Earth System Sciences, 7(3), 297-303.

Romano E., M. Giudici, G. Ponzini. (2002) *Simulation of the interactions between well fields with nested models: a case study*. Acta Universitatis Carolinae Geologica, 46, 637-640.

Valota G., M. Giudici, G. Parravicini, G. Ponzini and **E. Romano** (2002). *Is the forward problem of Ground Water Hydrology always well posed?*, Ground Water, 40 (5), 500-508.

Romano E., G. Beatrizotti, M. Giudici, G. Parravicini, G. Ponzini, T. Teruzzi (2002). *Modellistic and experimental study of water rain infiltration in western slope of Val Leventina (Canton Ticino)*, Geologia Insubrica, 5/2, 59-68.

Romano E., F. Di Palma, R. Aioldi, C. Arduini, M. Giudici e G. Ponzini (2002). *Sperimentazione sul sistema acquifero della Centrale Lambro (Milano)*, Acque Sotterranee, 76, 45-51.

Giudici M., F. Colpo, G. Ponzini and **E. Romano** (2001). *Calibration of groundwater recharge and hydraulic conductivity for the aquifer system beneath the city of Milan (Italy)*, in "Impact of human activity on groundwater dynamics", IAHS, 269, 43-50.

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