

## Curriculum Vitae e Studiorum

## Rudy Rossetto

Pisa,30/04/2021

**Present Position**

Assistant Professor

**Affiliation**

Institute of Life Sciences, Scuola Superiore Sant'Anna

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Source	URL
Present Employer website	<a href="https://www.santannapisa.it/it/rudy-rossetto">https://www.santannapisa.it/it/rudy-rossetto</a>
Google Scholar	<a href="https://scholar.google.com/citations?user=qO0ccckAAAAJ&amp;hl=it&amp;oi=a">https://scholar.google.com/citations?user=qO0ccckAAAAJ&amp;hl=it&amp;oi=a</a>
Research Gate	<a href="https://www.researchgate.net/profile/Rudy_Rossetto">https://www.researchgate.net/profile/Rudy_Rossetto</a>
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Web of Science	<a href="https://app.webofknowledge.com/author/record/1437498">https://app.webofknowledge.com/author/record/1437498</a>
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**EDUCATION**

**PhD in Engineering Geology** (2001-2005), University of Siena -Italy

Phd thesis: Modellazione numerica del flusso e del trasporto di soluti ai fini dell'investigazione dei meccanismi di trasporto dell'erbicida terbutilazina nel sistema acquifero della pianura di S. Alessio (Lucca)

**MSc in Geoenvironmental Engineering** (2005), School of Civil Engineering, Cardiff University - UK

**Specialization in Geological and Geoenvironmental Risk Assessment and Mitigation** (2001), University of Florence - Italy

**MSc in Earth Science** (1999), University of Pisa - Italy

**RESEARCH ACTIVITIES**

I have been working on interdisciplinary research on water resources management since the completion of the MSc in Geoenvironmental Engineering (when I gathered my engineering perspective at School of Civil Engineering, Cardiff University, UK). At present, I am employed as Assistant Professor (Ricercatore di tipo A (RTDA)) at the Institute of Life Sciences at Scuola Superiore Sant'Anna (SSSA) in the sector AGR/02 since 2016. Notwithstanding I am placed in the AGR/02, in all these years I have been running interdisciplinary hydrological research at the boundary with engineering, agronomy and geosciences. From the year 2010, I have been working on creation of a research area in water resources management at SSSA, finally succeeding thanks to the financing of a number of national and international research projects mostly on competitive international calls. To date, I develop research activities mainly in the following areas (with main related scientific publications<sup>1</sup>):

i) **Climate change adaptation measures for water resources management.** Research focuses on the use of **non-conventional waters** in **Managed Aquifer Recharge** (innovative solution for water supply; Rodríguez-Escales et al. 2018; Dillon et al. 2019; Rossetto et al. 2020) and **conjunctive use of surface- and ground-water** (Joodavi et al. 2020) to face **water scarcity conditions**. Moreover, the role of **sustainable drainage systems** for adapting urban and peri-urban areas has been investigated (Piacentini and Rossetto 2020). Research is ongoing within the LIFE REWAT and ITN MSCA MARSOLUT projects on the operations and potential impacts on hydrological (and hydrochemical) processes of nature-based solutions. Research is also ongoing on developing smart sensing systems for automatic operations of managed aquifer recharge schemes (Rossetto et al. 2015).

ii) **Development and applications of spatially distributed and physically-based numerical modelling tools for water resources management.** This research started in 2010 resulting in the outcome of the SID&GRID platform (Rossetto et al. 2010) and the development of a new spatially-distributed module for overland flow (Borsi et al. 2013). Later on, the FREEWAT platform, integrating in the QGIS application several modules for **surface- and ground-water modelling**, has been firstly conceived, developed (Rossetto et al. 2018; Criollo et al. 2019) and, since then, tested in several applications (Cannata et al. 2018; De Filippis et al. 2020; Perdikaki et al. 2020). To date FREEWAT has been downloaded more than 8000 times. **Agricultural water management** was dealt in order to improve **rural water supply and use** by means of **modules/processes** for

<sup>1</sup> The complete list of publications is presented in the scientific publication section

optimised conjunctive use of surface- and ground-water (Rossetto et al. 2019). A research, funded by the EU JRC, on framing the state-of-the-art on the use of digital tools for water resources management in the African continent is just concluded.

iii) **Improvement of water quality in agricultural areas.** Research has been focused on the pollution of rural drainage caused by **nutrients** and the development of analytical models for nutrients simulation in poorly gauged basins (Pistocchi et al. 2012), and on the vulnerability of shallow aquifers to **pesticide pollution** (Rossetto et al. 2020). Research run in rural areas located in reclaimed coastal wetland areas created the chance to build a large dataset currently under exploitation. Recently, I have been running research in investigating the role of the **soil-water-plant continuum** for **removal/degradation of pharmaceuticals** (Barbagli et al. 2019). Further on, specific efforts **to couple in a single modelling environment the hydrological and the nitrate cycles processes** were done (De Filippis et al. 2021). Research is ongoing on investigating nutrients and pesticides transport in rural areas by means of coupled hydrologic and solute transport simulations in surface water.

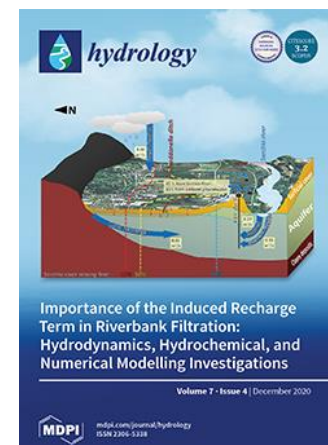
The following table presents a sample of published scientific papers<sup>2</sup>.

Paper title	Authors	Journal	Scopus perc.
A risk assessment methodology ...	Rodriguez-Escales et al. 2018	Hydrol Earth Syst Sc	96 <sup>TH</sup> Wat. Sc. & Tech.
Integrating free and open source tools ...	Rossetto et al. 2018	Environ Modell Softw	96 <sup>TH</sup> Environ.Engineering
Modeling unsaturated zone flow and runoff ...	Borsi et al. 2013	J Hydrol	95 <sup>TH</sup> Wat. Sc. & Tech.
Software tools for management of conjunctive ...	Rossetto et al. 2019	Agr Water Manage	94 <sup>TH</sup> Earth Surface Proc.
Deriving optimal operational policies for off-stream man-made reservoir ...	Joodavi et al. 2020	J Hydrol: Reg Studies	91 <sup>st</sup> Wat. Sc. & Tech.
A simple model to assess nitrogen and ...	Pistocchi et al. 2012	J Environ Qua	85 <sup>TH</sup> Wat. Sc. & Tech.
<a href="#">AkvaGIS: An open source tool for water ...</a>	<a href="#">Criollo et a. 2019</a>	<a href="#">Comp Geosciences</a>	<a href="#">83<sup>rd</sup> Comp. in Earth Sc.</a>
<a href="#">**Spatial Data Management and Numerical ...</a>	<a href="#">De Filippis et al. 2020</a>	<a href="#">Water</a>	<a href="#">78<sup>TH</sup> Geog. Plan. &amp; Devel.</a>
Attitude and actual behavior towards water-related green infrastructures	Piacentini and Rossetto 2020	Water	78 <sup>TH</sup> Geog. Plan. & Devel.
Assessment of soil buffer capacity on nutrients and ...	Barbagli et al. 2019	Envir.Sc. Pol. Res.	78 <sup>TH</sup> Pollution
Parameterization, sensitivity analysis, and inversion ...	La Vigna et al. 2016	Hydrogeol J	83 <sup>rd</sup> Wat. Sc. & Tech.
*Sixty years of global progress in ...	Dillon et al. 2019	Hydrogeol J	75 <sup>TH</sup> Wat. Sc. & Tech.
***Importance of the induced recharge term in riverbank filtration	Rossetto et al. 2020	Hydrology	69 <sup>TH</sup> Earth Surface processes
Physically-Based Modeling Approach for Estimating Agricultural Nitrate Leaching ...	De Filippis et al. 2021	Hydrology	69 <sup>TH</sup> Earth Surface processes

\*This paper was mentioned among Springer Nature 2019 highlights.

\*\*This paper was selected as Editor's Choice.

\*\*\*This paper was selected as cover story for the Hydrology journal 4<sup>th</sup> issue of 2020 (Volume 7 Issue 4 2020).



<sup>2</sup> The complete list of publications is presented in the scientific publication section

**ACADEMIC CAREER**

I started my academic career January the 1<sup>st</sup> 2001. Since then, I have been working continuously first at University of Siena (Italy) until 30<sup>th</sup> April 2008, and then at Scuola Superiore Sant'Anna (from 1<sup>st</sup> May 2008 to date).

<b>Period</b>	<b>Role</b>	<b>Institution</b>
<i>1 May 2016 – present</i>	<b>Assistant professor (Ricercatore TDA)</b>	Institute of Life Sciences Scuola Superiore Sant'Anna (AGR02)
<i>1 April 2013 – 30 April 2016</i>	<b>Post-doc (Assegnista di Ricerca)</b>	Institute of Life Sciences Scuola Superiore Sant'Anna (AGR02)
<i>1 April 2010 – 31 March 2013</i>	<b>Research scholarship (Borsista di ricerca)</b>	Scuola Superiore Sant'Anna
<i>1 May 2008 – 31 March 2010</i>	<b>Post-doc (Assegnista di Ricerca)</b>	Scuola Superiore Sant'Anna (AGR02)
<i>1 January 2006 – 30 April 2008</i>	<b>Post-doc (Assegnista di Ricerca)</b>	Centre of Geotechnologies (Università degli Studi di Siena)
<i>1 November 2005 – 31 December 2005</i>	<b>Research contract (Prestazione CoCoCo)</b>	Centre of Geotechnologies (Università degli Studi di Siena)
<i>1 November 2001 – 31 October 2005</i>	<b>PhD student</b>	Earth Science Department (Università degli Studi di Siena)
<i>1 January 2001 – 31 October 2001</i>	<b>Post-graduate scholarship (Borsa di studio)</b>	Earth Science Department (Università degli Studi di Siena)

I was awarded with the national scientific qualification as Associate Professor for the “settore concorsuale” GEO 04/a3 on 18<sup>th</sup> November 2020.

## **INTERNATIONAL, NATIONAL and TECHNOLOGICAL TRANSFER RESEARCH PROJECTS**

The following Tables report the main international projects I participated with funds raised on competitive calls. I always had an active role in the award of these projects, either by conceiving and then coordinating the whole project or actively participating in the project proposal preparation.

### **Since 2013 I raised a total of about 1.4 M € of research funds on competitive calls.**

In these projects, I always had an active role in the research activities, either leading the whole consortium, or as work package leader, or as core group partner. However, managing these projects took a considerable amount of time

In the last ten years, I have promoted and have been awarded also 4 national scale research projects (2 on competitive calls) and 5 technological transfer projects by relevant public authorities and private companies (e.g., EU JRC, Regione Toscana, Distretto Idrografico Alpi Orientali, Autorità di Bacino Distrettuale del Fiume Po, well-recognised water utilities). All the research activities provided outcomes for high-level scientific publications. The complete track of record of these projects is presented in the tables below.

In December 2020, I was awarded a H2020 PRIMA project (NEXUS NESS: NEXUS Nature Ecosystem Society Solution. *On analysing the interactions between climate water and food production*; worth about 340k € of research funds for my unit) along with hydraulics/hydrologic engineering groups of University of Florence, Politecnico di Milano, and Università Stranieri di Perugia (project coordinator). We are in the process of the signature of the Grant Agreement and the project is due to commence in May 2021.

At present, the project proposal RES-Eau, follow up of the TRIG Eau project (on flood risk reduction by means of low-development infrastructures/sustainable drainage systems) has been submitted on March 22<sup>nd</sup> 2021. RES-Eau will be financed as a capitalisation project of the INTERREG programme ("*finanziamento a sportello*" - more info at <http://interreg-maritime.eu/it/v-avviso>) to the full previous TRIG Eau partnership. This second project is due to commence in 2021.

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**International projects**

<b>Project title</b>	<b>Funding scheme</b>	<b>Duration</b>	<b>Approx amount (€)</b>	<b>Role</b>	<b>Website</b>
<b>MARsolut - Managed Aquifer Recharge Solutions Training Network</b>	EU HORIZON 2020 Marie Skłodowska-Curie Innovative Training Networ	March 2019 – 2023	260 K	PI for SSSA <sup>3</sup> (WP 4 leader)	<a href="https://www.marsolut-itn.eu/">https://www.marsolut-itn.eu/</a>
<b>T.R.I.G - Eau - Transfrontalierità, Resilienza, Innovazione &amp; Governance per la prevenzione del Rischio Idrogeologico</b>	EU Interreg Marittimo Italia-Francia	March 2017 – October 2020	95 K	PI for Scuola Superiore Sant’Anna	<a href="http://interreg-maritime.eu/web/t.r.i.g-eau">http://interreg-maritime.eu/web/t.r.i.g-eau</a>
<b>LIFE REWAT - sustainable WATER management in the lower Cornia valley through demand REDuction, aquifer Recharge and river Restoration</b>	EU LIFE Programme	September 2015 - 2021	360	Technical/ Scientific Coordinator (PI for SSSA)	<a href="http://www.liferewat.eu">www.liferewat.eu</a>
<b>Technische Universitaet Muenchen (TUM) incentive funds</b> Collaboration with TUM (Department of Civil, Geo and Environmental Engineering) and USGS California for two workshops: a) INTEGRATED HYDROLOGICAL MODELING (October 2019, Munich, Germany) b) Hydrologic Modeling Information Science Nexus (13 <sup>th</sup> -16 <sup>th</sup> January 2020, USGS California, San Diego, California, US)	The cooperation was entirely funded by the TUM International Center and the International Graduate School for Science and Engineering (IGSSE–Germany)	October 2019 – Jan 2020	The project supported travel and subsistence for two workshops in Germany and US	Member of the cooperation group	-
<b>PHARM-SWAP MED - removal of PHARMaceuticals from the Soil-Water-Plant continuum in the Mediterranean</b>	Bilateral joint Italy-Israel programme – funded by Ministero degli Affari Esteri	December 2015 – June 2018	100 k	Italian unit coordinator	-
<b>FREEWAT - FREE and open source software tools for WATER resource management</b>	HORIZON 2020	April 2015 – September 2017	270 k	Project Coordinator	<a href="http://www.freewat.eu">www.freewat.eu</a>
<b>**MARSOL - Managed Aquifer Recharge as a Solution to Water Scarcity and Drought</b>	FP7	December 2013 – November 2016	320 k	WP8 leader, Member of the Core Group, PI for SSSA	<a href="http://www.marsol.eu">www.marsol.eu</a>
<b>Transatlantic Diffusion of Sustainability Through Environmental Sciences and Engineering</b>	EU/CANADA Programme Cooperation in Higher Educ.	2009 – 2013	50 k	PI for Scuola Superiore Sant’Anna	-

\*\*Funds from this project were jointly used by three Institutes of Scuola Superiore Sant’Anna (institute of Life Sciences, Dirpolis and Institute of Management).

<sup>3</sup> Scuola Superiore Sant’Anna

**National projects**

<i>Project title</i>	<i>Funding scheme</i>	<i>Duration</i>	<i>Role</i>
<b>Studio di fattibilità per la realizzazione di un modello idrogeologico delle acque sotterranee della pianura Padana - MODPOPLAIN</b>	Direct contract - Autorità di Bacino Distrettuale del Fiume Po	February 2021 - July 2021	Scientific co-coordinator
<b>Sviluppo di un modello con metodi numerici integrati in software per la gestione dei dati spaziali (GIS) che descriva i meccanismi di trasporto, abbattimento e circolazione in acque superficiali di fitofarmaci e composti azotati*</b>	Direct contract - Distretto Idrografico Alpi Orientali	July 2019 – 2021	Scientific coordinator
<b>SMAQua - SMart ICT tools per l'utilizzo efficiente dell'AcQua*</b>	POR FSE 2014-2020 -Regione Toscana, 50%, and industrial fundings, 50%	March 2018 – March 2021	Project Coordinator
<b>Phyto-treatment &amp; paludiculture in Mediterranean drained land</b>	Scuola Superiore Sant'Anna	2012-2016	Responsible for hydrological issues
<b>Pianificazione e gestione della risorsa idrica nella pianura di Lucca attraverso strumenti di modellazione numerica idrologica –idrogeologica*</b>	Direct contract Provincia di Lucca	September 2011 - 2013	PI and Responsible for hydrological issues and numerical modelling
<b>SID&amp;GRID Simulazione e sistemi IDroinformatici per la Gestione delle Risorse Idriche*</b>	Regione Toscana POR FSE 2007-2013	April 2010 – March 2013	PI for SSSA
<b>Studio dell'eutrofizzazione del Lago di Massaciuccoli (Pisa-Lucca)</b>	Research contract Scuola Superiore Sant'Anna – Parco Naturale Regionale Migliarino San Rossore Massaciuccoli	May 2008 – 2012	Responsible for hydrological issues
<b>Cartografia idrogeologica del versante in sinistra orografica del Fiume Serchio a integrazione del CISS delle Alpi Apuane e finalizzata alla redazione del bilancio idrologico del Fiume Serchio</b>	Research contract Autorità di Bacino del Fiume Serchio - Università degli Studi di Siena -	December 2007- April 2008	PI for Centro di GeoTecnologie
<b>Studio Idrogeologico Prototipale del Corpo Idrico Significativo dell'Acquifero Carbonatico delle Alpi Apuane, Monti d'Oltre Serchio e Santa Maria del Giudice</b>	Research contract Regione Toscana - Università degli Studi di Siena	January 2006 – August 2007	PI for Centro di GeoTecnologie
<b>Meccanismi di trasporto dell'erbicida terbutilazina nell'acquifero alluvionale di Sant'Alessio (Lucca)</b>	Research contract Scuola Superiore Sant'Anna – Università degli Studi di Siena	January 2005 - August 2007	PI for Centro di GeoTecnologie

\*I had a relevant active role in fund acquisition where the funding scheme is specified



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**Technological Transfer projects**

<b>Project title</b>	<b>Funding scheme</b>	<b>Duration</b>	<b>Role</b>
<b>*Framing the state-of-the-art on the use of software and digital tools for subsurface hydrology and hydrochemistry in the African continent</b>	Direct contract - Joint Research Centre of the European Union	December 2019 – September 2020	Scientific coordinator-
<b>*Studio idrologico/idrogeologico ed idrochimico finalizzato alla valutazione della sostenibilità di un aumento dei prelievi di acqua sotterranea dal campo pozzi “Cugna”, a servizio dell’acquedotto pubblico di Forte dei Marmi, e nella definizione della zona di rispetto del campo pozzi stesso, attraverso strumenti di modellazione numerica idrologica-idrogeologica.</b>	Direct contract – GAIA spa	Jan 2017 –present	Scientific coordination
<b>*Integrating QGIS and SID&amp;GRID</b>	Direct contract – Regione Toscana	2015- 2016	PI for SSSA
<b>*Programma di ricerche sui metodi e interventi innovativi finalizzati alla valutazione, e monitoraggio di uso, consumo e trattamento delle risorse idriche</b>	Direct contract - CURSA within the EU project IMPROWARE	2015-2016	PI for SSSA
<b>*Application of the E<sup>2</sup>STORMED software- Improvement of energy efficiency in the water cycle by the use of innovative storm water management in smart Mediterranean cities, <a href="http://www.e2stormed.eu">www.e2stormed.eu</a> (EU MED-programme)</b>	-	2014-2015	PI for SSSA
<b>*Modellazione numerica del flusso dell’acquifero alluvionale della pianura di Lucca e di Bientina</b>	Direct contract Acque Ingegneria Spa within the framework of the LIFE ASAP project	2008-2010	PI for SSSA
<b>*Studio per il disinquinamento delle acque sotterranee del sito industriale di Pianvallico (Comuni di Scarperia e San Piero a Sieve-Firenze)*</b>	Direct contract Province of Firenze	December 2007- May 2008	PI for Centro di GeoTecnologie
<b>Studio di modellistica idrogeologica per la valutazione dell’impatto di un’opera in sotterraneo sul livello piezometrico nel sottosuolo di Firenze</b>	-	April 2007 - July 2008	PI for Centro di GeoTecnologie
<b>Completamento della cartografia della franosità del Bacino Sperimentale del Fiume Serchio</b>	Direct contract Autorità di Bacino del Fiume Serchio	September 2005 –July 2006	Responsible for geomorphology, ICT and data distribution

\*I had a relevant active role in fund acquisition where the funding scheme is specified

## ***Set-up of research infrastructures***

I coordinated the set-up of two research infrastructures:

a) 2014 – 2016

**The Sant'Alessio Induced Riverbank Filtration experimental area** (Lucca, Italy), within the framework of the MARSOL EU FPVII-ENV-2013 project, was instrumented to demonstrate the sustainability, by a scientific point of view, of the most common MAR techniques, versus the unmanaged option. Along with a detailed hydrogeological and hydrogeochemical site characterization, a pilot Wireless Sensor Network to monitor quantitatively and qualitatively the hydrologic variables in the river water, in the aquifer and in the wells was designed and set in operation.

This site on March 16<sup>th</sup> 2019 was selected as Outstanding examples of successful and sustainable managed aquifer recharge for UNESCO Publication.

b) 2015 – present

A **pilot MAR two-stages infiltration basin** for harvesting flood-water from the Cornia River was set in operation in Suvereto (Italy). The MAR scheme fulfils all of the requirements of the Italian regulation on artificial recharge of aquifers (DM 100/2016). As such a central element consists in the hi-frequency automated and remotely controlled system for operating the plant and monitoring water quantity and quality. The MAR scheme diverts excess surface water from River Cornia by means of a pumping system first into a settling pond and then into a larger fine sands and gravel basin. The automated operating system allows diversion from the Cornia River using: i) the data acquired by a level sensor at a Cornia River hydrometer - this to avoid that diversion takes place at flow conditions lower than the minimum ecological flow; ii) the data acquired from a S::CAN Spectrolyser probe providing the spectral signature of the surface water and parameters of interest, such as turbidity, nitrates, TOC, DOC, UV254 and color, so to guarantee that good quality water (on legal basis) is used for recharge. A head sensor in the infiltration basin regulates the basin filling in order to avoid overflow. The effectiveness and impact of the intentional recharge process on the aquifer is then monitored using a different set of sensors placed in a number of piezometers upstream and downstream the MAR scheme. Thresholds are set and alarm messages are sent to the managing technical staff in order to inform and to allow timely reaction to inconveniences. The control unit hosting the database and recording the gathered data may be accessed from everywhere with basically any kind of device. The implemented MAR scheme is working at about 5000 m<sup>3</sup>/day recharging rate..

I also cooperated in 2012 in the set-up of a research infrastructure for studying the effectiveness of **large scale phyto-treatment schemes** (Vecchiano, Italy). A pilot experimental field of 15 ha using three different phyto-treatment schemes has been set up: constructed wetland (A), vegetation filters (B) and natural wetland (C). The (A) system is internally and externally banked (0.5 m) in order to force water flow to a convoluted pattern which results in a travel time lengthening. The (B) system is based on the plantation of seven different no-food crops managed according to a periodic cutting and biomass harvesting. The system is crossed by a dense network of ditches supplying water to the crops through lateral infiltration and partial submersion. The (C) system consists in a rewetted area where the re-colonization of spontaneous vegetation takes place.

**ACADEMIC TEACHING and DUTIES**

The following table presents my institutional teaching activities at Scuola Superiore Sant'Anna along with courses I am delivering/delivered to other universities.

<b>Academic Year</b>	<b>Institution</b>	<b>Degree</b>	<b>Course</b>	<b>Hours</b>
2020-2021	Scuola Sup. Sant'Anna	PhD in Agrobiosciences and PhD in Agrobiodiversity	Geographic Information Systems (GIS) Theory and applications (in English)	24
2020-2021	Scuola Sup. Sant'Anna	II level Master in Resources Management	Protezione della risorsa idrica	4+ 1 day field trip
2019-2020	University of Siena	II level Master in Environmental Geotechnologies	Groundwater modelling	48
2019-2020	Scuola Sup. Sant'Anna	PhD in Agrobiosciences and Agrobiodiversity	Geographic Information Systems (GIS) Theory and applications (in English)	24
2019-2020	Scuola Sup. Sant'Anna	Corso di laurea in Scienze agrarie e biotecnologie vegetali	Fundamentals and application of GIS	20
2019-2020	Polytechnic Institute LaSalle Beauvais (France)	International Spring Water Semester	Surface- and Ground-water modelling	5
2018-2019	Scuola Sup. Sant'Anna	Summer School	Digital Water and Agroecosystem services	11 + field trip
2018-2019	University of Siena	II level Master in Environmental Geotechnologies	Groundwater modelling	24
2018-2019	Scuola Sup. Sant'Anna	PhD in Agrobiosciences and Agrobiodiversity	Geographic Information Systems (GIS) Theory and applications (in English)	20
2018-2019	Scuola Sup. Sant'Anna	II level Master in Resources Management	Protezione della risorsa idrica	2
2018-2019	Polytechnic Institute LaSalle Beauvais (France)	International Spring Water Semester	Surface- and Ground-water modelling	7
2017-2018	Scuola Sup. Sant'Anna	Summer School	Digital Water and Agroecosystem services	12 + field trip
2017-2018	University of Siena	II level Master in Environmental Geotechnologies	Groundwater modelling	24
2017-2018	Scuola Sup. Sant'Anna	II level Master in Resources Management	Protezione della risorsa idrica	2
2017-2018	Polytechnic Institute LaSalle Beauvais (France)	International Spring Water Semester	Water quality management across ecosystems	6
2016-2017	University of Siena	II level Master in Environmental Geotechnologies	Groundwater modelling	24
2016-2017	Scuola Sup. Sant'Anna	II level Master in Resources Management	Protezione della risorsa idrica	2
2015-2016	Scuola Sup. Sant'Anna	II level Master in Resources Management	Protezione della risorsa idrica	4
2010-2011	University of Siena	II level Master in Engineering Geology	Applied hydrogeology to engineering construction	24
2008-2009	University of Siena	Bsc in Geotechnologies	Groundwater hydrology	72
From a.y. 2004-2005	University of Siena	II level Master in Environmental Geotechnologies	Geoenvironmental modelling	48

To a.y. 2014-2015 (11 a.y.)				
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\*For a.y. 2015/2016, 2016/2017 and 2017/2018 I was granted reduced teaching duties, upon my request to the rector, because of the heavy bureaucratic burden posed by the management of the research projects.

For the a.y. 2020/2021 I foresee to give during the second semester the following courses:

Academic Year	Institution	Degree	Course	Hours
2020-2021	University of Siena	II level Master in Environmental Geotechnologies	Groundwater modelling	48
2020-2021	Scuola Sup. Sant'Anna	Corso di laurea in Scienze agrarie e biotecnologie vegetali	Fundamentals and application of GIS	20
2020-2021	Univ. of Pisa	MSc degree in Environmental Sciences	Adaptation for water resource management	2 +field trip
2020-2021	Scuola Sup. Sant'Anna	Seasonal School	The soil-water-plant continuum for urban and rural wastewater phytotreatment and contaminated site remediation	8

### **Coordination of other academic teaching initiatives**

- Since the a.y. 2020/2021 I am coordinating the Seasonal School ***The soil-water-plant continuum for urban and rural wastewater phytotreatment and contaminated site remediation*** a short course in English, supported by Scuola Superiore Sant'Anna, to attract students from all Italy and Europe. The course is scheduled from 28<sup>th</sup> June to 2<sup>nd</sup> July 2021.
- Since the a.y. 2018/2019 I started and coordinated as scientific responsible the Summer School (80 hours, two-weeks intensive course in English) **Digital water management and water-related agroecosystem services: geostatistics, hydroinformatics and groundwater flow numerical modelling**. In three years a total of 75 students (from all over the world, i.e. from US to New Zealand) attended the course, and 71 fully completed it with award of ECTS (Scuola Superiore Sant'Anna)
- Since the a.y. 2017/2018 I am coordinating the course (in English) **Surface and groundwater modelling** within the degree International Spring Water Semester. Polytechnic Institute LaSalle Beauvais (France)
- In the a.y. 2007/2008 I coordinated and supervised the International Course **Advanced numerical modelling of flow and transport in soils and aquifers**. Certosa di Pontignano 7-18 Aprile 2008 - Università degli Studi di Siena
- In the a.y. 2005/2006 I coordinated and supervised the Summer School **Advanced numerical modelling of flow and transport in soils and aquifers**. Centre of Geotechnologies, University of Siena
- From a.y. 2004/05 to 2007/08 (3 a.y.) I was the tutor of the **II level Master in Environmental Geotechnologies**. Centre of Geotechnologies, University of Siena

### **Membership in PhD programme board**

Since 2017, I am member of the Teaching Board of the Ph.D. programmes (Scuola Superiore Sant'Anna):

- **Ph.D. in Agrobiosciences**
- **Ph.D. in Agrobiodiversity**

I am also member of the **ITN MARSolut H2020 MSCA International Training Network Supervisory Board**, supervising the career of the 12 PhD students enrolled in the MARSOLUT project.

### ***Supervision of PhD students***

In the framework of the **ITN MARSolut H2020 MSCA** since a.y. 2019-2020 I am supervising the PhD research activities of:

- Esteban Caligaris (PhD in Agrobs. at Institute of Life Sciences; Scuola Superiore Sant'Anna),

and co-supervising:

- Rebecca Sultana (UFZ – Germany), and
- Rodrigo Pérez Illanes (Polytechnic University of Catalonia).

### ***Tutorship of PhD students***

I tutored/co-tutored to the completion of the degree 5 PhD students.

#### **PhD programme in Agrobiosciences (Scuola Superiore Sant'Anna)**

- Alessio Barbagli: Analysis of water-soil interaction in drainage water phyto-treatment and in aquifer recharge schemes. Completed in September 2017
- Margherita De Peppo: (November 2017 – November 2018)

#### **PhD programme in Scienze e Tecnologie Applicate all'Ambiente – Sezione Geotecnologie (University of Siena)**

- Andrea Gigliuto: Le barriere idrauliche e idraulico-fisiche: applicabilità in differenti contesti idrologici e analisi multi-criterio finalizzata alla selezione della migliore tecnologia di intervento. XII ciclo (completed in 2010) Cotutor
- Enzo De Carlo: Applicazione di modellistica sperimentale per la determinazione del bilancio idrico sul bacino del fiume Serchio". Completed in 2006 - Cotutor
- Andrea Morelli: Stima dei volumi di afflusso meteorico negli eventi estremi, mediante l'utilizzo di metodologie di ragguaglio all'area per il bacino del Fiume Serchio. Completed in 2006 -Cotutor

#### **PhD programme in Geodinamica (Università degli Studi RomaTRE)**

- Francesco La Vigna. Modello numerico del flusso dell'unità idrogeologica termominerale delle Acque Albule (Roma). Università degli Studi RomaTRE. Dipartimento di Scienze Geologiche. Dottorato in Geodinamica XXI Ciclo (Completed in 2008) Cotutor

### ***Supervision of graduate students and postdoctoral fellows***

During my academic career at Scuola Superiore Sant'Anna I supervised the following post-doctoral fellows:

- Chiara Marchina (1 year),
- Simone Maria Piacentini (1 year),
- Giovanna De Filippis (3 years).

Commonly, I run research activities in cooperation with post-graduate students – I usually award about 2 yearly postgraduate scholarships per year since 2015.

### ***Tutorship of BSc and MSc students***

1. Soro Emanuele. Infrastrutture verdi /blu per la mitigazione del rischio idraulico in ambiente urbano e peri-urbano. Tesi secondo anno scienze agrarie. Relatore. AA 2029/2020 Scuola Superiore Sant'Anna
2. Vaccaro Eleonora. Analisi del sistema idrico empolese ai fini dell'implementazione del piano di sicurezza dell'acqua. Master universitario di II Livello in Gestione e controllo dell'Ambiente: economia circolare e management efficiente delle risorse, a.a. 2017-2018, Scuola Superiore Sant'Anna, Pisa
3. De Peppo Margherita. Agro-ecosystem based solution for provisioning of water-related service in the framework of the water-food and energy nexus. Master universitario di II Livello in Gestione e controllo dell'Ambiente: management efficiente delle risorse, a.a. 2015-2016, Scuola Superiore Sant'Anna, Pisa
4. Armanasco Paolo. Reflui da attività agricola: il trattamento di soluzioni acquose contenenti fitofarmaci con tecniche di fitodepurazione. Master universitario di II Livello in Gestione e controllo dell'Ambiente: management efficiente delle risorse, a.a. 2014-2015, Scuola Superiore Sant'Anna, Pisa
5. Carloni Irene. Indagini idrologiche e monitoraggio delle acque a supporto della gestione dell'impianto di fitodepurazione di SanNiccolò (Vecchiano, Pisa). Master universitario di II Livello in Gestione e controllo dell'Ambiente: management efficiente delle risorse, a.a. 2012-2013, Scuola Superiore Sant'Anna, Pisa
6. Lobianco Daniela. Analisi dell'andamento temporale e spaziale della salinizzazione del bacino del Massaciuccoli in relazione all'uso irriguo della risorsa idrica. Master universitario di II Livello in Geotecnologie Ambientali, a.a. 2011/2012, Università degli Studi di Siena
7. Andrea Tanzi. Monitoraggio e bilancio idrologico del bacino della valle del Guappero (Monti Pisani – Lucca). Primo relatore. Corso di Laurea in Geotecnologie, A.A. 2009-2010 Centro di Geotecnologie, UNIVERSITÀ DEGLI STUDI DI SIENA, FACOLTÁ DI SCIENZE MATEMATICHE, FISICHE E NATURALI
8. Cannavò Silvia. Modello numerico del flusso del settore meridionale del bacino del Lago di Massaciuccoli ai fini della validazione del bilancio idrico. Primo relatore. Corso di Laurea in geologia Applicata, A.A. 2008/09 Centro di Geotecnologie, FACOLTÁ DI SCIENZE MATEMATICHE, FISICHE E NATURALI, UNIVERSITÀ DEGLI STUDI DI SIENA
9. Barletta Riccardo. Caratterizzazione idrogeologica del Borro del Giglio (Montevarchi) attraverso indagini geofisiche. Correlatore. Corso di Laurea in Geotecnologie, A.A. 2006/07 Centro di Geotecnologie, UNIVERSITÀ DEGLI STUDI DI SIENA, FACOLTÁ DI SCIENZE MATEMATICHE, FISICHE E NATURALI

### ***Capacity building/professional teaching***

Since 2016, I coordinated and run several courses within the H2020 FREEWAT and LIFE REWAT projects in Italy and abroad in cooperation also with other Institutions such as: UNESCO-IHP (France), Technische Universitaet Dresden (Germany), Technische Universitaet Munchen (Germany), LNEC (Portugal), University of Milan, University of Rome, and University of Naples.

I held the Short course 8. **Modelling MAR facilities design and operations using the free and open source FREEWAT plugin**. International Symposium on Managed Aquifer Recharge 20 - 24 May 2019, Madrid

I am also part of the OPEN WATER initiative promoted by UNESCO –IHP with the main goal of spreading the use of free and open source software for water resource management.

Within this context I held a 16 hours course “**Groundwater modeling using FREEWAT**” at the **Open Water Symposium 2019**. Institut Agronomique et Veterinaire Hassan-II, Rabat, Morocco 28-30 October 2019

## RESEARCH PRODUCTS

### Software

#### Active software

**FREEWAT:** QGIS integrated modelling platform for water resource management with special focus on groundwater management

[www.freewat.eu](http://www.freewat.eu)



FREEWAT is an open-source and public-domain, GIS-integrated simulation platform for planning and management of ground- and surface-water resources. The FREEWAT platform allows to simulate the whole hydrological cycle, coupling the power of GIS geo-processing and post-processing tools in spatial data analysis with that of process-based simulation models.

This results in a modeling environment where large spatial datasets can be stored, managed and visualized and where several simulation codes (mainly belonging to the USGS MODFLOW family) are integrated to simulate multiple hydrological, hydrochemical. Among the capabilities included in the FREEWAT platform (e.g., groundwater flow, interaction with surface-water bodies, solute transport, sensitivity analysis and parameter estimation), particular attention is paid to sustainable management of combined use of ground- and surface-water resources in rural environments.

The software is an open source and public domain one and it is distributed along with:

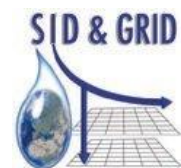
- 6 USER MANUAL v. 1.1 (Nov. 2018)
- 10 tutorials completed with data.

The software has been downloaded from the website about 3000 unique times. About ten MSc thesis were discussed worldwide using the FREEWAT platform. I am the manager of a LINKEDIN **EU H2020 FREEWAT** group (about 800 persons taking part)

**Organics:** Organics is a QGIS plugin that allows to simulate transport of organics chemical compounds in surface water, based on the measured concentration at the inlet of a water course and surface water velocity.

#### Superseded software

**SID&GRID:** GIS integrated hydrological modelling environment



The SID&GRID solution implemented a hydrological model integrated in a GIS interface, applications and library, where all the input and output data are managed by means of DataBase Management System (DBMS) to allow the quantitative assessment of water availability in space and time and to support the planning decision processes.

The software is an open source and public domain one and it is distributed along with:

- USER MANUAL v. 1.02 (July 2013)
- 4 tutorials completed with data.

The SID&GRID software was superseded by the FREEWAT platform.



## Scientific publications

### Author's output

To date I am author/co-author of 30 peer-reviewed indexed (in SCOPUS and/or Web of Science Core Collection) scientific papers.

My Scopus ID reports 36 documents (26 articles, 7 conference papers, 2 short survey and 1 note).

The current SCOPUS HI is 12. SCOPUS total number of citations is 322 (47 for 2021).

My Google Scholar HI is 12 and a total of 506 citations is reported (429 since 2016).

Rossetto, Rudy

[Scuola Superiore Sant'Anna di Studi Universitari e di Perfezionamento, Pisa, Italy](#) [Show all author info](#)

[55205882400](#) <https://orcid.org/0000-0003-2072-3241>

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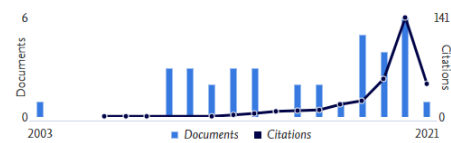
#### Metrics overview

36  
Documents by author

322  
Citations by 218 documents

12  
h-index [View h-graph](#)

#### Document & citation trends



[Analyze author output](#) [Citation overview](#)

#### Most contributed Topics 2015–2019

Subsurface Flow; Hydrologic Models; Richards Equation  
[5 documents](#)

PPCP; Micropollutant; Carbamazepine  
[1 document](#)

Soil and Water Assessment Tool Model; Nonpoint Source Pollution; Stream Flow  
[1 document](#)

[View all Topics](#)

36 Documents [Cited by 218 Documents](#) [0 Preprints](#) [139 Co-Authors](#) [Topics](#)

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- De Filippis G, Ercoli L, **Rossetto** R. A Spatially Distributed, Physically-Based Modeling Approach for Estimating Agricultural Nitrate Leaching to Groundwater. *Hydrology*. 2021; 8(1):8. <https://doi.org/10.3390/hydrology8010008>
- Rossetto** R, Barbagli A, De Filippis G, Marchina C, Vienken T, Mazzanti G. Importance of the Induced Recharge Term in Riverbank Filtration: Hydrodynamics, Hydrochemical, and Numerical Modelling Investigations. *Hydrology*. 2020; 7(4): 96. <https://doi.org/10.3390/hydrology7040096>
- Joodavi, A., Izady, A., Karbasi Maroof, M.T., Majidi, M., **Rossetto**, R. Deriving optimal operational policies for off-stream man-made reservoir considering conjunctive use of surface- and groundwater at the Bar dam reservoir (Iran) *Journal of Hydrology: Regional Studies*, Open Access, Volume 31, October 2020, Article number 100725 DOI: 10.1016/j.ejrh.2020.100725
- Perdikaki, M., Manjarrez, R.C., Pouliaris, C., **Rossetto**, R., Kallioras, A. Free and open-source GIS-integrated hydrogeological analysis tool: an application for coastal aquifer systems. *Environ Earth Sci* 79, 348 (2020). <https://doi.org/10.1007/s12665-020-09092-2>
- Piacentini, S. M.; **Rossetto**, R. Attitude and actual behaviour towards water-related green infrastructures and sustainable drainage systems in four north-western Mediterranean regions of Italy and France. *WATER* (2020), 12,5 DOI: 1474 10.3390/w12051474
- De Filippis, G, Pouliaris, C., Kahuda, D., Vasile, T.A., Manea, V.A., Zaun, F., Panteleit, B., Dadaser-Celik, F., Positano, P., Nannucci, M.S., Grodzynskiy, M., Marandi, A., Sapiano, M., Kopač, I., Kallioras, A., Cannata, M., Filiali-Meknassi, Y., Foglia, L., Borsi, I., **Rossetto**, R. 2020. Spatial Data Management and Numerical Modelling: Demonstrating the Application of the QGIS-Integrated FREEWAT Platform at 13 Case Studies for Tackling Groundwater Resource Management. 2020 *Water*, 12, 41 doi:10.3390/w12010041

7. **Rossetto**, R., De Filippis, G., Triana, F., Ghetta, M., Borsi, I., Schmid, W. Software tools for management of conjunctive use of surface- and ground-water in the rural environment: integration of the Farm Process and the Crop Growth Module in the FREEWAT platform. *Agricultural Water Management*, Volume 223, 20 August 2019, Article number 105717 <https://doi.org/10.1016/j.agwat.2019.105717>
8. Rotman Criollo, Violeta Velasco, Albert Nardi, Luis Manuel Vries, Celia Riera, Laura Scheiber, Anna Jurado, Serge Brouyère, Estanislao Pujades, Rudy **Rossetto**, Enric Vázquez-Suñé. AkvaGIS: An open source tool for water quantity and quality management. *Computers & Geosciences*. June 2019 Volume 127 Pages 123-132 <https://doi.org/10.1016/j.cageo.2018.10.012>
9. P. Dillon & P. Stuyfzand & T. Grischek & M. Lluria & R. D. G. Pyne & R. C. Jain & J. Bear & J. Schwarz & W. Wang & E. Fernandez & C. Stefan & M. Pettenati & J. van der Gun & C. Sprenger & G. Massmann & B. R. Scanlon & J. Xanke & P. Jokela & Y. Zheng & R. **Rossetto** & M. Shamruk & P. Pavelic & E. Murray & A. Ross & J. P. Bonilla Valverde & A. Palma Nava & N. Ansems & K. Posavec & K. Ha & R. Martin & M. Sapiano. Sixty years of global progress in managed aquifer recharge. *HYDROGEOLOGY JOURNAL* Volume: 27 Issue: 1 Pages: 1-30 Published: FEB 2019 DOI: 10.1007/s10040-018-1841-z
10. Barbagli, Alessio; Jensen, Benjamin Niklas; Raza, Muhammad; Schueth C. & **Rossetto** R. Assessment of soil buffer capacity on nutrients and pharmaceuticals in nature-based solution applications. *ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH* Volume: 26 Issue: 1 Special Issue: SI Pages: 759-774 Published: JAN 2019 DOI: 10.1007/s11356-018-3515-8
11. Febo, Simone; Petrolo, Francesco; Cureda, Francesco; Zirulia, Andrea; Vacca, Matteo; Trotta, Marilena; Guastaldi, Enrico; De Filippis, Giovanna; **Rossetto**, Rudy; Benucci, Claudio. Probabilistic 3D reconstruction of the alluvial aquifer of the Val di Cornia (Province of Livorno). *RENDICONTI ONLINE SOCIETA GEOLOGICA ITALIANA* Volume: 46 Pages: 23-28 NOV 2018 DOI: 10.3301/ROL.2018.47
12. **Rossetto**, Rudy; De Filippis, Giovanna; Borsi, Iacopo; Foglia, Laura; Cannata, Massimiliano; Criollo, Rotman; Vazquez-Sune, Enric. Integrating free and open source tools and distributed modelling codes in GIS environment for data-based groundwater management. *ENVIRONMENTAL MODELLING & SOFTWARE* Volume: 107 Pages: 210-230 Published: SEP 2018 DOI: 10.1016/j.envsoft.2018.06.007
13. Foglia, Laura; Borsi, Iacopo; Mehl, Steffen; De Filippis, Giovanna; Cannata, Massimiliano; Vasquez-Sune, Enric; Criollo, Rotman; **Rossetto**, Rudy. FREEWAT, a Free and Open Source, GIS-Integrated, Hydrological Modeling Platform. *GROUNDWATER* Volume: 56 Issue: 4 Pages: 521-523 Published: JUL-AUG 2018 DOI: 10.1111/gwat.12654
14. 10.Rodriguez-Escales, Paula; Canelles, Arnau; Sanchez-Vila, Xavier; Folch, Albert; Kurtzman, Daniel; **Rossetto**, Rudy; Fernandez-Escalante, Enrique; Lobo-Ferreira, Joao-Paulo; Sapiano, Manuel; San-Sebastian, Jon; Schueth, Christoph A risk assessment methodology to evaluate the risk failure of managed aquifer recharge in the Mediterranean Basin. *HYDROLOGY AND EARTH SYSTEM SCIENCES* Volume: 22 Issue: 6 Pages: 3213-3227 Published: JUN 8 2018 DOI: 10.5194/hess-22-3213-2018
15. Cannata, Massimiliano; Neumann, Jakob; **Rossetto**, Rudy. Open source GIS platform for water resource modelling: FREEWAT approach in the Lugano Lake. *SPATIAL INFORMATION RESEARCH* Volume: 26 Issue: 3 Pages: 241-251 doi.org/10.1007/s41324-017-0140-4
16. De Filippis, Giovanna; Borsi, Iacopo; Foglia, Laura; Cannata, Massimiliano; Mansilla, Violeta Velasco; Vasquez-Sune, Enric; Ghetta, Matteo; **Rossetto**, Rudy. Software tools for sustainable water resources management: the GIS-integrated FREEWAT platform. *RENDICONTI ONLINE SOCIETA GEOLOGICA ITALIANA* Volume: 42 Pages: 59-61 Published: MAR 2017 DOI: 10.3301/ROL.2017.14
17. **Rossetto**, Rudy; Borsi, Iacopo. FREEWAT: a free and open source modelling platform for water resource management. *ACQUE SOTTERRANEE-ITALIAN JOURNAL OF GROUNDWATER* Volume: 6 Issue: 3 Pages: 5-5 Published: 2017 <https://doi.org/10.7343/as-2017-292>
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- FREEWAT platform. ACQUE SOTTERRANEE-ITALIAN JOURNAL OF GROUNDWATER Volume: 6 Issue: 3 Pages: 7-12 Published: 2017 <https://doi.org/10.7343/as-2017-293>
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### *Conference abstracts*

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79. Rossetto, R.; Baldi, B.; Perna, M.; Carmignani, L. (2007). Use of GIS hydrogeological databases for integrated water management. EGU General Assembly –Vienna April 2007
80. Rossetto, R. & Bockelmann B. (2005). Investigation of the transport and accumulation mechanisms of a herbicide in the river floodplain and groundwater system of the S. Alessio Plain, Lucca (Tuscany, Italy). Geophysical Research Abstracts, Volume 7, 2005.

### *National conferences*

1. Giovanna De Filippis, Manuel Sapiano, Youssef Filiali-Meknassi, Tales Carvalho Resende, Irena Kopač, Bjorn Panteleit, Rudy Rossetto. La piattaforma EU H2020 FREEWAT per la gestione della risorsa idrica: esempi di applicazione. Software e Dati Geografici Free e Open Source FOSS4G-it 2019. 20-23 febbraio 2019
2. Alessandro Fabbrizzi, Giovanna De Filippis, Simone Maria Piacentini, Simone Febo, Alberto Mantino, Calogero Ravenna, Claudio Benucci, Marco Masi, Alessandra Pei, Valentina Menonna, Riccardo Leoni, Federico Lazzaroni, Enrico Guastaldi, Tiziana Sabbatini, Rudy Rossetto. Il progetto EU LIFE REWAT per una gestione sostenibile delle risorse idriche in Val di Cornia. IV Italian Congress on River Restoration, Bologna, Italy, October 2018
3. Rossetto R., De Filippis G., Borsi I., Foglia L., Cannata M., Vazquez-Suñé E., Criollo R. GIS e strumenti modellistici per la gestione delle acque sotterranee: venti anni di ricerca e sviluppo. XIII Convegno Nazionale GIT-SI. Fortezza Firmafede 11 - 13 Giugno 2018, Sarzana (Sp)
4. Febo S., Neri S., Piacentini S.M., De Filippis, G., Masi, M., Lazzaroni, F., Leoni, R., Pei, A., Menonna V., Fabbrizzi A., Rossetto, R. Soluzioni ICT per il monitoraggio e l'operatività degli impianti di ricarica delle falde: il caso dell'impianto di ricarica di Suvereto. XIII Convegno Nazionale GIT-SI. Fortezza Firmafede 11 - 13 Giugno 2018, Sarzana (Sp)
5. De Filippis G., Iacopo Borsi I., Laura Foglia L., Cannata M., Rotman Criollo R., Enric Vázquez-Suné E., Kopač I., Panteleit B., Positano P., Nannucci M. S., Sapiano M., Svidzinska D., Grodzynski M., Rossetto R. Promuovere la gestione delle risorse idriche mediante strumenti ICT e approccio partecipato. XIII Convegno Nazionale GIT-SI. Fortezza Firmafede 11 - 13 Giugno 2018, Sarzana (Sp)
6. Piacentini S.M., Rossetto R. Gestione del rischio idraulico in ambiente urbano e peri-urbano: l'attenzione verso approcci innovativi di drenaggio nelle aree mediterranee di Italia e Francia. XIII Convegno Nazionale GIT-SI. Fortezza Firmafede 11 - 13 Giugno 2018, Sarzana (Sp)
7. De Filippis, G., Borsi, I., Foglia, L., Cannata, M., Velasco Mansilla, V., Rossetto R., 2016. The H2020 FREEWAT project for developing a GIS-integrated platform for water resource management. XXXV Convegno Nazionale di Idraulica e Costruzioni Idrauliche, 14-16 September 2016, Bologna, Italy
8. Febo S., Petrolo F., Cureda F., Zirulia A., Trotta M., Guastaldi E., De Filippis G., Rossetto R., Benucci C. Ricostruzione probabilistica 3D dell'acquifero alluvionale della Val di Cornia (provincia di Livorno). XII CONVEGNO NAZIONALE GIT – Geosciences and Information Technologies 12-14 Giugno 2017 – Gavorrano (GR)
9. De Filippis G., Barbagli A., Marchina C., Borsi I., Mazzanti G., Nardi M., Vienken T., Bonari E., Rossetto R. Strumenti modellistici per la gestione di un impianto MAR di ricarica indotta di subalveo XII CONVEGNO NAZIONALE GIT – Geosciences and Information Technologies 12-14 Giugno 2017 – Gavorrano (GR)
10. Iacopo B., Rossetto R., De Filippis G., Cannata M., Foglia L. Simulation of solutes transport problems using FREEWAT, a free and open source, GIS-integrated, modeling platform XII CONVEGNO NAZIONALE GIT – Geosciences and Information Technologies 12-14 Giugno 2017 – Gavorrano (GR)
11. Rossetto R., De Filippis G., Borsi I., Foglia L., Toegl A., Cannata M., Neumann J., Vazquez-Suné E., Criollo R. Strumenti free ed open source per la gestione della risorsa idrica: la piattaforma FREEWAT

- integrata in GIS XII CONVEGNO NAZIONALE GIT – Geosciences and Information Technologies 12-14 Giugno 2017 – Gavorrano (GR)
12. Chiara Marchina, Alberto Mantino, Enrico Bonari, Alessandro Fabbrizzi, Rudy Rossetto. Life project REWAT: sustainable water management in the lower Cornia Valley. Società Italiana di Agronomia XLV Convegno Nazionale. Sassari, 20-22 settembre 2016
  13. Giovanna De Filippis, Iacopo Borsi, Laura Foglia, Massimiliano Cannata, Violeta Velasco Mansilla, & Rudy Rossetto. THE H2020 FREEWAT PROJECT FOR DEVELOPING A GIS-INTEGRATED PLATFORM FOR WATER RESOURCE MANAGEMENT. XXXV Convegno Nazionale di Idraulica e Costruzioni Idrauliche. Bologna, 14-16 Settembre 2016
  14. De Filippis G. , Borsi I. , Foglia L., Cannata M., Velasco V., Rossetto R. ICT tools for sustainable water resources management: the GIS-integrated FREEWAT platform. XI CONVEGNO NAZIONALE GIT – Geosciences and Information Technologies 13-15 Giugno 2016 – Torino
  15. Triana, F., Rossetto, R., Borsi, I., Foglia, L., Bonari, E., 2015. The EU H2020 FREEWAT project: an open source software tool for water resource management. Convegno Nazionale Società Italiana Agronomia, 14-16 September 2015, Bologna, Italia
  16. Rossetto, R., Barbagli, A., Marchina, C., Sabbatini, T., Bonari, E., Silvestri, N. The San Niccolò (Vecchiano, Italia) experimental area for studying the hydrology of coastal Mediterranean wetland. Workshop: Plant-soil-water interfaces in riverine and hydromorphic-subaqueous ecosystems. 23-25<sup>th</sup> June 2015 Imola (Italy)
  17. R Rossetto, A Barbagli, S Bosco, I Carloni, V Ciccolini, V Giannini, E Pellegrino, C Pistocchi, T Sabbatini, N Silvestri, A Baiocchi, A Difonzo, L Giannecchini, E Bonari (2014). Large scale phyto-treatment for ecosystem Restoration: the San Niccolò experiment. Flowpath 2014, National meeting on Hydrogeology, Viterbo (Italy)
  18. Borsi, R. Rossetto, C. Schifani, A. Agnelli, E. Baldini, C. Benucci, N., Cempini, F. Consumi, D. Del Seppia, A. Di Grazia, F. Franceschini , G. Mazzanti, S. Menichetti ,V. Mennonna , A. Muti, M.S. Nannucci , C. Ravenna, M. Sodini (2014). THE SID&GRID MODELING ENVIRONMENT FOR SIMULATING GROUNDWATER FLOW: CASE STUDIES. Flowpath 2014, National meeting on Hydrogeology, Viterbo (Italy)
  19. Rudy Rossetto, Alberto Aniasi, Alessio Barbagli, Iacopo Borsi, Andrea De Guttry, Peter Dietrich, Marco Frey, Giorgio Mazzanti, Daniele Picciaia, Francesco Rizzi, Christoph Schueth, Thomas Vienken and Enrico Bonari (2014). THE SERCHIO RIVER WELL FIELD TEST SITE (LUCCA, ITALY) WITHIN THE MARSOL FPVII PROJECT: MANAGEMENT OF INDUCED RIVERBANK FILTRATION (IRBF). Flowpath 2014, National meeting on Hydrogeology, Viterbo (Italy)
  20. Basile P., Bonari E., D'Amato Avanzi G., Giannecchini R., Mazzanti G., Puccinelli A., Rossetto R. Groundwater modeling in the Lucca plain: using results for managing the water resource. FIST GEOITALIA 2013 – IX Forum di Scienze della Terra – Pisa 16-18 Settembre 2013
  21. Gigliuto A., Borzoni M., Rossetto R. Evaluating the feasibility of hydraulic and physical barriers at contaminated sites by means of multicriteria analysis. FIST GEOITALIA 2013 – IX Forum di Scienze della Terra – Pisa 16-18 Settembre 2013
  22. Rossetto R., Borsi I., Schifani C., Agnelli A., Baldini E., Benucci C., Cempini N., Consumi F., Del Seppia D., Di Grazia A., Franceschini F., Mazzanti G., Menichetti S., Menonna V., Muti A., Nannucci M.S., Ravenna C., Sodini M. Applying the SID&GRID modelling environment for simulating groundwater flow in aquifers: case studies. FIST GEOITALIA 2013 – IX Forum di Scienze della Terra – Pisa 16-18 Settembre 2013
  23. Borsi, I., Rossetto, R., Schifani, C. 2011. Il progetto SID&GRID. Simulazione e sistemi IDroinformatici per la Gestione delle Risorse Idriche. Hydrica 1 Aprile 2011, Padova <http://www.hydrica.org/pdf/Convegni%20Hydrica%202011/Venerdi%201%20Aprile%202011/Iniziativa%20Giovani/Iacopo%20Borsi.pdf> [last accessed 26/04/2011]
  24. Borsi, I., Rossetto, R., Schifani, C. 2011. Hydroinformatic system for water resources management. Workshop on Integrated, Physically-Based Hydrological Modeling. January 17-18, 2011, Università degli

Studi di Padova, Padova, Italy

25. Schifani, C., Rossetto, R., Borsi, I., Primicerio, M., Mogorovich, P., Bonari, E. 2010. Simulazione e sistemi idroinformativi per la gestione della risorsa idrica. Atti 14<sup>a</sup> Conferenza Nazionale ASITA - Brescia 9-12 November 2010
26. Gigliuto, A., Righetti, C., Ruggeri, R., Chini, A., Rossetto, R., 2009. Density-dependent finite element numerical modelling of flow and transport to assess remediation strategies and seawater intrusion at a coastal contaminated aquifer. 3° Congresso Nazionale Associazione Italiana di Geologia Applicata e Ambientale. 25-27 Febbraio. San Giovanni Valdarno, Arezzo.
27. La Vigna, F., Teoli, P., Mazza, R., Rossetto, R., 2009. Approccio al mezzo poroso equivalente nella simulazione dei sistemi idrogeologici fratturati – il caso della piana delle Acque Albule, Roma. 3° Congresso Nazionale Associazione Italiana di Geologia Applicata e Ambientale. 25-27 Febbraio. San Giovanni Valdarno, Arezzo.
28. Baldi, B., Carloni, A., Guastaldi, E., Massa, G., Perna, M., Rossetto, R., 2009. Cartografia idrogeologica e caratterizzazione dei corpi idrici sotterranei carbonatici della Toscana nord occidentale (Alpi Apuane e Bacino del Fiume Serchio). 3° Congresso Nazionale Associazione Italiana di Geologia Applicata e Ambientale. 25-27 Febbraio. San Giovanni Valdarno, Arezzo.
29. Baldi, B., Carloni, A., Carmignani, L., Montinaro, A., Perna, M., Rossetto, R., 2008. Cartografia idrogeologica in scala 1:10000 del corpo idrico sotterraneo significativo delle Alpi Apuane (Toscana settentrionale, Italia). Simposio: Stato del territorio e delle risorse naturali in Toscana. 23-25 Ottobre 2008, Firenze.
30. Carloni, A., Rossetto, R., Menichetti, S., 2008. I modelli numerici come strumento per la gestione sostenibile delle risorse idriche, la protezione e la prevenzione dai fenomeni di inquinamento e di subsidenza: il caso dell'acquifero alluvionale della pianura di Lucca. Simposio: Stato del territorio e delle risorse naturali in Toscana. 23-25 Ottobre 2008, Firenze.
31. Basile, P., Carloni, A., Forni, F., Rossetto, R., 2008. Il sito industriale di Pianvallico (Comune di Scarperia e San Piero a Sieve, Provincia di Firenze): approccio metodologico per la preparazione di un test-site per lo studio del comportamento dei composti organo-clorurati nelle acque sotterranee. Congresso della Società Geologica Italiana Sassari 15-17 Settembre 2008.
32. La Vigna, F., Hill, M.C., Rossetto, R., Mazza, R., Capelli, G., 2008. Modello numerico idrogeologico del flusso della piana delle Acque Albule. Guidonia-Roma. Congresso della Società Geologica Italiana Sassari 15-17 Settembre 2008.
33. R. Rossetto, 2007. Studio idrogeologico prototipale del corpo idrico sotterraneo significativo dell'acquifero carbonatico delle Alpi Apuane, Monti d'Oltre Serchio e Santa Maria del Giudice. Convegno "Il completamento della Carta della Franosità del Bacino del Fiume Serchio." Autorità di Bacino del Fiume Serchio, Lucca, 21 Dicembre 2007.
34. R. Rossetto, B. Baldi, M. Perna, L. Carmignani, 2007. Building geodatabase for integrated water management. Geoitalia 2007 Sesto Forum Italiano di Scienze della Terra– Rimini, 12-14 Settembre 2007. Epitome, Volume 2, Federazione Italiana di Scienze della Terra. ISSN 1972-1552
35. Francesco Agnelli, Eros Aiello, Andrea Carloni, Rudy Rossetto, 2007. Evaluation of the impact of the Viale Guidoni (Florence, Italy) tram tunnel on groundwater flow regime by means of numerical modelling. Geoitalia 2007 - Sesto Forum Italiano di Scienze della Terra– Rimini, 12-14 Settembre 2007. Epitome, Volume 2, Federazione Italiana di Scienze della Terra. ISSN 1972-1552
36. Enzo Di Carlo, Andrea Morelli, Rudy Rossetto, Bruna Baldi, 2007. Hydrological modelling using SWAT for Serchio River basin management (Northern Tuscany, Italy). Geoitalia 2007 Sesto Forum Italiano di Scienze della Terra– Rimini, 12-14 Settembre 2007. Epitome, Volume 2, Federazione Italiana di Scienze della Terra. ISSN 1972-1552
37. Chiara Odette Di Mauro, Stefano Menichetti, Rudy Rossetto, 2007. Groundwater flow numerical modelling using MODFLOW-2000 of a sector of the Valdarno Superiore (Tuscany) alluvial aquifer. Geoitalia

- 2007 Sesto Forum Italiano di Scienze della Terra– Rimini, 12-14 Settembre 2007. Epitome, Volume 2, Federazione Italiana di Scienze della Terra. ISSN 1972-1552
38. R. Rossetto, B. Baldi, M. Perna, A. Montinaro, A. Carloni, L. Carmignani, 2007. Hydrogeological data management: GIS mapping of the Apuan Alps (Tuscany, Italy) karst and fissured groundwater systems. Geoitalia 2007 Sesto Forum Italiano di Scienze della Terra– Rimini, 12-14 Settembre 2007. Epitome, Volume 2, Federazione Italiana di Scienze della Terra. ISSN 1972-1552
39. Enzo Di Carlo, Andrea Morelli, Rudy Rossetto, Bruna Baldi, 2007. Modellazione idrologica del bacino del Fiume Serchio (Toscana settentrionale, Italia) per mezzo del modello semi-distribuito fisicamente basato SWAT. Giornale di Geologia Applicata, Volume 6, Supplemento A, 2007, pp. 21-22.
40. Di Mauro, C., Menichetti, S., Rossetto, R., 2007. Modellazione numerica di flusso dell'acquifero alluvionale di Montevarchi (Valdarno superiore, Arezzo). Giornale di Geologia Applicata, Volume 6, Supplemento A, 2007, pp. 41-42.
41. Rudy Rossetto, Bruna Baldi, Massimo Perna, Antonio Montinaro, Andrea Carloni, Luigi Carmignani, 2007. Applicazioni GIS per la caratterizzazione del Corpo Idrico Sotterraneo Significativo delle Alpi Apuane (Toscana, Italia). Giornale di Geologia Applicata, Volume 6, Supplemento A, 2007, pp. 44-45.
42. Carloni, A., Rossetto, R., Menichetti, S., 2007. Applicazioni GIS per la modellazione numerica del flusso: il caso della pianura di Lucca. Giornale di Geologia Applicata, Volume 6, Supplemento A, 2007.
43. Rossetto, R., Baldi, B., Perna, M., Carmignani, L. (2006). Progettazione di un geodatabase per la gestione della risorsa idrica sotterranea. Convegno ASITA, Bolzano Novembre 2006.
44. Perna, M., Baldi, B., Rossetto, R. (2006). Utilizzo del model builder per l'automazione delle operazioni di creazione delle classi di attività. Convegno ASITA, Bolzano Novembre 2006.
45. Rossetto, R. & Bockelmann B. (2005). Groundwater and solute transport numerical modeling: a groundwater management tool for the S. Alessio municipal well field, Lucca (Italy). Geoitalia 2005, Epitome, Volume 1 - Federazione Italiana di Scienze della Terra.

**INVITED TALKS****International events**

1. Rudy Rossetto. **Managed Aquifer Recharge and free and OS ICT solutions for groundwater management.** Seminar at EU Joint Research Centre. Ispra, Italy, 4<sup>th</sup> December 2019
2. Rudy Rossetto. **Moving from intentional recharge to controlled Managed Aquifer Recharge: The LIFE REWAT Suvereto two-stage infiltration basin (Italy).** Interreg Deepwater CE - Managed Aquifer Recharge Workshop. Technical University of Munich, Munich, Germany October 16<sup>th</sup> 2019
3. Rudy Rossetto, Simone Maria Piacentini. **MANAGED AQUIFER RECHARGE IN ITALY: PRESENT AND PROSPECTS.** Groundwater Dependant Ecosystems. New research horizons and management implications. L'Aquila 4-6 Luglio 2018 (LIFE AQUALIFE project )
4. Rudy Rossetto. **Achieving sustainable ground-water management by using GIS-integrated simulation tools: the EU H2020 FREEWAT platform.** Centre for Water Systems, College of Engineering, Mathematics and Physical Sciences. University of Exeter (UK) 2<sup>nd</sup> March 2018 CANCELLED due to severe weather conditions
5. Rudy Rossetto. **Reconciling agriculture with the environment : a tale of nature-based solutions, ICT and participatory approach.** Multi-actor participatory water management for climate change adaptation at the farm level. Czech Liaison Office for Research, Development and Innovation in Brussels and Czech University of Life Sciences Prague. May 23<sup>rd</sup> 2018. KoWI meeting room – Brussels (Belgium)
6. Rudy Rossetto. **An innovation lab for water management in coastal Tuscany (Italy): the LIFE REWAT.** Optimising the implementation of the 2<sup>nd</sup> RBMP in the Malta River Basin District. Official Launch Conference. Wednesday 9<sup>th</sup> May 2018 - Seashells Resort, Qawra, Malta (RBMP LIFE project)
7. Rudy Rossetto. **Going digital in GroundWater Resource Management: the H2020 FREEWAT project results.** EU-Gulf Water Innovation Knowledge Exchange. International Water Summit, Abu Dhabi, UAE, 15-18 January 2018
8. Rudy Rossetto. **The H2020 FREEWAT project: results and future prospects.** Seminar: Smart water monitoring for river and lake basin management, ECOMONDO – Rimini (Italy) 8 November 2017
9. Rudy Rossetto. **An innovation lab for water management in coastal Tuscany: the REWAT LIFE project.** EIP Water Conference. Porto, 28<sup>th</sup> September 2017
10. Rudy Rossetto. **Uniting the research world, local government and the private sector in the Italian Network on Managed Aquifer Recharge (INMAR)** Developing water innovation: How R&D centres, innovation hubs and accelerators help solve European water sector challenges. EIP Water Conference. Porto, 27<sup>th</sup> September 2017
11. Rudy Rossetto. **Open source and free software for water resource management: the H2020 FREEWAT platform.** Water Innovation Europe, Water Supply and Sanitation technological platform, Bruxelles, 14<sup>th</sup> June 2017
12. Rudy Rossetto. **Open source and free software for water resource management: the H2020 FREEWAT platform.** 32<sup>nd</sup> EU CIS-GROUNDWATER Working Group Meeting San Lawrenz, Malta, 25-26 April 2017
13. Rudy Rossetto. **FREE and open source tools for WATER resource management (FREEWAT).** COP 22 UN Climate Change Conference Marrakech (Morocco) 9<sup>th</sup> November 2016
14. Rudy Rossetto. **Demonstrating Managed Aquifer Recharge as a Solution to Water Scarcity and Drought. The experience of the EU FP7 MARSOL project.** WADIS-MAR Final conference. International Workshop on sustainable water resources management in arid and semi-arid Regions. Sassari, Italy, 16 and 17 June 2016

### **National events**

1. Rudy Rossetto. **La ricarica delle falde come soluzione per l'approvvigionamento idrico.** Riserve idriche e qualità dei corsi d'acqua: un conflitto risolvibile? 30 Aprile 2021 Ciclo di seminari "Riqualficazione fluviale. 8 INCONTRI DI FORMAZIONE E CONFRONTO SULLA RIQUALIFICAZIONE FLUVIALE" Organised by Centro Italiano per la Riqualficazione Fluviale in LIFE GREENCHANGE Green Infrastructures for increasing biodiversity in Agro Pontino and Maltese rural areas (LIFE17 NAT/IT/000619 <http://lifegreenchange.eu/it/>)
2. Rudy Rossetto. **FREEWAT – Strumenti software gratuiti e open source per la gestione della risorsa idrica.** Visita studio per le Regioni Campania, Emilia Romagna, Marche e Piemonte Buone pratiche per l' "Acqua": FREEWAT E WIZ. Web seminar organised by SOGESID spa and Ministero dell' Ambiente e della Tutela del Territorio e del Mare, 25<sup>th</sup> May 2020
3. Rudy Rossetto. **H2020 FREEWAT e LIFE REWAT. ICT e soluzioni basate sui sistemi naturali per l'innovazione nella gestione della risorsa acqua e l'adattamento ai cambiamenti climatici.** Creiamo PA Workshop L6 WP1 ACQUA: Risorsa da tutelare e salvaguardare. Roma, 16 Dicembre 2019. Auditorium Ministero dell' Ambiente e della Tutela del Territorio e del Mare (Via Capitan Bavastro, 180)
4. Rudy Rossetto. **The LIFE REWAT Managed Aquifer Recharge scheme: a research infrastructure to improve understanding on groundwater hydrodynamics and hydrochemistry.** Catchment Hydrology Day, University of Florence, DAGRI Department, Aula Magna, piazzale delle Cascine 18, Florence, 12 November 2019
5. Rudy Rossetto. **Le tecniche di water banking per l'adattamento ai cambiamenti climatici. Cambiamenti climatici e acque sotterranee.** 30 Settembre 2019 Regione Emilia Romagna/Alma Mater Studiorum Università di Bologna, Bologna.
6. Rudy Rossetto. **I sistemi di ricarica della falda in condizioni controllate per l'approvvigionamento idrico nel bacino del Mediterraneo.** Gestione sostenibile delle risorse idriche sotterranee per le zone aride. University of Florence, DAGRI Department, Aula Magna, piazzale delle Cascine 18, Florence, 14 May 2019
7. Rudy Rossetto. **Strumenti software gratuiti e open source per la gestione della risorsa idrica. Seminario pluriregionale.** Buone pratiche per le Regioni Liguria, Piemonte, Sardegna, Toscana e Valle d'Aosta. SOGESID spa/Regione Liguria, Genova May 8<sup>th</sup> 2019
8. Rudy Rossetto. **La piattaforma H2020 FREEWAT. Software libero e open source per migliorare la capacità di enti pubblici e società private nella gestione della risorsa idrica.** Kick-off Meeting della Linea di intervento "LQS - Piattaforma delle Conoscenze – Capitalizzazione delle esperienze e disseminazione dei risultati per la replicabilità di buone pratiche per l'ambiente e il clima" Roma, 31 Gennaio 2019. Auditorium Ministero dell' Ambiente e della Tutela del Territorio e del Mare
9. Rudy Rossetto. **La ricarica in condizioni controllate degli acquiferi: esperienze in Italia e nel mondo.** 1° Workshop su: Uso delle risorse idriche sotterranee in periodi siccitosi. Esperienze dalla Toscana al resto del mondo. IAH Italy, Firenze, Palazzo Vecchio, 10 Dicembre 2018.
10. Rudy Rossetto. **ICT e soluzioni basate sui sistemi naturali: innovazione nella gestione della risorsa acqua per l'adattamento ai cambiamenti climatici.** Il Futuro dell'acqua. Ricercatori e gestori a confronto nella realtà toscana. FAI Delegazione di Pisa. 30 Novembre 2018. Pisa
11. Rudy Rossetto. **La ricarica delle falde in condizione controllate: esperienze applicative e limiti normativi.** Il percorso di riforma del settore idrico. Gli interventi del regolatore, gli impatti sulle aziende e le prospettive di intervento. Livorno 09/07/2018
12. Rudy Rossetto e Simone Maria Piacentini. **Esperienze internazionali nelle tecniche di gestione della ricarica delle falde acquifere.** L'AGRICOLTURA PER L'ACQUA – Dieci anni di Aree Forestali di Infiltrazione. Veneto Agricoltura, Cittadella (Padova) 11 giugno 2018
13. Rudy ROSSETTO. **La ricarica delle falde in condizioni controllate nel mondo ed in Italia: 60 anni di ricerca e applicazioni.** Convegno: LA PREVISIONE IDROGEOLOGICA SULLA RISORSA ACQUA.



- ACCADEMIA NAZIONALE DEI LINCEI, XVIII GIORNATA MONDIALE DELL'ACQUA. Roma 22 Marzo 2018
14. Rudy Rossetto. **Free and Open Source Software Tools for Water Resource Management: FREEWAT.** WORKSHOP Il Ruolo della Modellazione Numerica Idrogeologica nel Processo Decisionale. Dip. di Scienze Ecologiche e Biologiche (DEB). Università degli Studi della Tuscia 11 Settembre 2017
  15. Rudy Rossetto. **REWAT Life Project.** TERRITORIAL CIRCULAR BIOECONOMY Alma Mater Studiorum - University of Bologna, Piazza S. Giovanni in Monte, 2 May 16<sup>th</sup>, 2017
  16. Rudy ROSSETTO. **GIS & modelling open source: la piattaforma H2020 FREEWAT per la gestione della risorsa idrica.** WORKSHOP: **Rendere visibile l'acqua sotterranea: strategie ed esperienze a scala europea.** Università La Sapienza, Roma 20 Ottobre 2016
  17. Rudy Rossetto. **La piattaforma modellistica FREEWAT per la gestione delle risorse idriche. SFIDE E PROSPETTIVE DELLA GESTIONE DELLE RISORSE IDRICHE E GEOTERMICHE NEI SISTEMI CARBONATICI E TORBIDITICI. ESEMPI E CASI DI STUDIO** Perugia Villa Colombella, sede Segretariato UN WWAP UNESCO, 6 ottobre 2016
  18. Rudy Rossetto. Il legame tra acqua, cibo, energia e ambiente: le attività dei progetti di ricerca EU H2020 FREEWAT e FP7 MARSOL Workshop Geobasi, Università degli Studi di Firenze. 24 September 2015
  19. Rudy Rossetto, Enrico Bonari. Il futuro della ricarica delle falde in condizioni controllate in Italia: il progetto europeo FP7 MARSOL e la EIP on Water MAR to MARKET. Workshop: **La ricarica delle falde in condizioni controllate: l'esperienza italiana nel contesto europeo.** 3<sup>rd</sup> October 2014 GEOFLUID (Piacenza)
  20. Rudy Rossetto. **Innovazione e governance nella gestione della risorsa idrica: i progetti EU FP7 MARSOL, H2020 FREEWAT e LIFE REWAT. Progetti europei sulle risorse idriche: il caso WISDOM e le ricadute sul territorio della provincia.** La Spezia, Italy, 25 gennaio 2016
  21. Rossetto, R. **Il progetto SID&GRID per la conoscenza della risorsa idrica.** Conferenza 2013 ASM GIS ITALIA. 26<sup>th</sup> September 2013
  22. Rossetto, R. **Le tecnologie idroinformatiche per la gestione quali-quantitativa dell'approvvigionamento idrico.** Convegno Le nuove frontiere dell'innovazione tecnologica nel settore idrico. 19 April 2011 Pisa
  23. Rossetto, R. **Strumenti di modellazione per la valutazione della vulnerabilità degli acquiferi.** ASAP e oltre: l'integrazione della gestione della risorsa idrica nella pianificazione territoriale e nelle politiche di adeguamento al cambiamento climatico. Progetto LIFE ASAP, conferenza finale. Pisa 17-18<sup>th</sup> September 2009
  24. Rossetto, R. **Convegno finale progetto LIFE SERIAL WELLFIR: i risultati di un triennio e attività per la salvaguardia della risorsa idrica.** 31st August 2007. Comune di Lucca, Lucca

### *Other talks*

1. **Rossetto R.** *Le risorse idriche naturali della val di Cornia. Criticità quali- quantitative.* Il Contratto di Fiume Cornia e l'utilizzo sostenibile delle risorse idriche. Webinar organizzato da Regione Toscana. 12 Marzo 2021
2. **Rossetto R.** *ICT e soluzioni basate sui sistemi naturali: innovazione nella gestione della risorsa acqua per l'adattamento ai cambiamenti climatici.* Strategie per la gestione sostenibile dell'acqua nel contesto dei cambiamenti climatici e dell'economia circolare: le sfide del territorio apuo-versiliese. 2-5 Ottobre 2019 Villa Bertelli, Forte dei Marmi, Italy
3. **Rossetto, R., Pacetti, T.** *Il progetto E2STORMED: attività svolte e risultati.* Verso una gestione più efficiente delle acque meteoriche nelle città del Mediterraneo 29<sup>th</sup> January 2015 Scuola Superiore Sant'Anna (Pisa)
4. **Rossetto R.** *Il Progetto MARSOL EU FP VII. LE TECNICHE DI INDAGINE PER LA CARATTERIZZAZIONE*

*IDROGEOLOGICA E GEOTECNICA DEGLI IMPIANTI DI RICARICA DELLE FALDE IN CONDIZIONE CONTROLLATE (Managed Aquifer Recharge - MAR).* Il progetto EU FPVII MARSOL Venerdì 19 Settembre 2014, ore 9:00 Foro Boario, Lucca

5. Bonari E., **Rossetto, R.** *Gestione sostenibile delle risorse idriche per gli usi agronomici, idropotabili e per il mantenimento degli agro-ecosistemi.* Giornata di studio Water for the World. Le ricerche dei laboratori della Scuola Superiore Sant'Anna. 21<sup>st</sup> October 2010 Scuola Superiore Sant'Anna, Pisa

## **ORGANISATION of INTERNATIONAL and NATIONAL WORKSHOPS**

1. **Managed Aquifer Recharge and modelling. Technologies and tools for groundwater resource management.** International web seminar 23<sup>rd</sup> November 2020, Scuola Superiore Sant'Anna (Pisa) – organiser
2. **Infrastrutture verdi per il drenaggio ed il trattamento delle acque e per la resilienza e l'adattamento ai cambiamenti climatici.** Webinar 9<sup>th</sup> October 2020, Scuola Superiore Sant'Anna (Pisa) – organiser
3. **Strategie per la gestione sostenibile dell'acqua nel contesto dei cambiamenti climatici e dell'economia circolare: le sfide del territorio apuo-versiliese.** (including chair of the session: *La gestione sostenibile e integrata della risorsa idrica nel contesto dei cambiamenti climatici*, 4 October 2019) 2-5 Ottobre 2019 Villa Bertelli, Forte dei Marmi, Italy– organiser (member of the Scientific committee)
4. **Acqua e adattamento ai cambiamenti climatici. L'esperienza del progetto LIFE REWAT in Val di Cornia** 28<sup>th</sup> June 2019 Scuola Superiore Sant'Anna – co-organiser
5. **2<sup>nd</sup> FREEWAT International Workshop** 17<sup>th</sup> September 2019, Scuola Superiore Sant'Anna (Pisa) – organiser
6. **Digital water and nature based solutions: innovative tools for sustainable water management** – Scuola Superiore Sant'Anna (Pisa) 10<sup>th</sup> September 2018 – organiser
7. **Composti farmaceutici e contaminanti emergenti nell'ambiente: degradazione nei sistemi di fitodepurazione attraverso il continuum acqua-suolo-pianta** 13<sup>th</sup> June 2018 Scuola Superiore Sant'Anna (Pisa) – organiser
8. **ICT tools for innovating Groundwater Management in a changing world** – CSIC IDAEA (Barcelona, Spain) 22<sup>nd</sup> September 2017 – co-organiser
9. **1<sup>st</sup> FREEWAT USER AND DEVELOPERS INTERNATIONAL WORKSHOP**– CSIC IDAEA (Barcelona, Spain) 21<sup>st</sup> September 2017 – co-organiser
10. **TRANSFRONTALIERITÀ, RESILIENZA, INNOVAZIONE & GOVERNANCE PER LA PREVENZIONE DEL RISCHIO IDROGEOLOGICO.** First seminar of the T.R.I.G-Eau project. Scuola Superiore Sant'Anna, March 31<sup>st</sup> 2017 – organiser
11. **Fostering inclusive and sustainable economic growth, employment and decent work (SDG#8) through ICT job creation tools for ensuring water security (SDG#6)** – UNESCO (Paris, France) 30<sup>th</sup> September 2016– co-organiser
12. **Advantages of using Numerical Modeling in Water Resources Management and Managed Aquifer Recharge schemes** 21<sup>st</sup> April 2015 Scuola Superiore Sant'Anna (Pisa) – organiser
13. **Verso una gestione più efficiente delle acque meteoriche nelle città del Mediterraneo** 29<sup>th</sup> January 2015 Scuola Superiore Sant'Anna (Pisa) – organiser
14. **La ricarica delle falde in condizioni controllate: l'esperienza italiana nel contesto europeo.** 3<sup>rd</sup> October 2014 GEOFLUID (Piacenza) – organiser
15. **Le tecniche di indagine per la caratterizzazione idrogeologica e geotecnica degli impianti di ricarica**

**delle falde in condizioni controllate.** Il progetto EU FPVII MARSOL Venerdì 19 Settembre 2014, ore 9:00 Foro Boario, Lucca – co- organiser

16. **CALIBRATION, SENSITIVITY ANALYSIS AND UNCERTAINTY EVALUATION OF GROUNDWATER MODELS** in cooperation with M.C. Hill (USGS) 2-5 July 2007 Centro di GeoTecnologie - Università degli Studi di Siena– co- organiser

### **SCIENTIFIC COMMITTEE of NATIONAL/INTERNATIONAL CONFERENCES and CHAIRED SESSIONS**

#### **Scientific committee of national/International Conferences**

1. 5<sup>th</sup> FLOWPATH, the Italian National Meeting on Hydrogeology, Naples 2021 (**Member of the Scientific Committee**)
2. Geo-IT and Water Resources 2020 4<sup>th</sup> Edition of International Conference on Geo-IT and Water Resources 2020 in Mediterranean region", March 11 & 12, 2020, ENSAH, Al Hoceima, Morocco (**Member of the Scientific Committee**)
3. 4<sup>th</sup> FLOWPATH, the Italian National Meeting on Hydrogeology, Milan June 12-14 2019 (**Member of the Scientific Committee**)
4. 10<sup>th</sup> INTERNATIONAL SYMPOSIUM ON MANAGED AQUIFER RECHARGE (ISMAR10), Madrid May 20-24 2019 (**Member of the scientific/Technical Committee**)
5. 2<sup>nd</sup> International Conference Citizen Observatories for natural hazards and Water Management (COWM), 27-30 November 2018, Venice, Italy (**Member of the Scientific Committee**)

#### **Chaired sessions at conferences**

1. **La gestione sostenibile e integrata della risorsa idrica nel contesto dei cambiamenti climatici.** Conveners: Rudy Rossetto and Viviana Re. Strategie per la gestione sostenibile dell'acqua nel contesto dei cambiamenti climatici e dell'economia circolare: le sfide del territorio apuo-versiliese. 2-5 Ottobre 2019 Villa Bertelli, Forte dei Marmi, Italy
2. **Urban Hydrogeology.** Conveners: Dr. Rudy Rossetto (Scuola Superiore Sant'Anna Pisa), Dr. Massimo Marchesi (IT2Europe S.r.l.), Dr. Stefania Stevenazzi (Università degli Studi di Milano). 4<sup>th</sup> FLOWPATH, the Italian National Meeting on Hydrogeology, Milan June 12-14 2019
3. **MAR and modeling.** CONVENERS: Dr. Shakeel Ahmed. CSIR-Nat. Geophysical Res. Inst. Saphani. India. Dr. Rudy Rossetto. Scuola Superiore Santa Anna, Pisa. Italy. 10<sup>th</sup> INTERNATIONAL SYMPOSIUM ON MANAGED AQUIFER RECHARGE (ISMAR10), Madrid May 20-24 2019
4. **SC1.5 FREEWAT: an open source and QGIS-based platform for water management** Convener: Rotman Criollo | Co-conveners: Iacopo Borsi, Massimiliano Cannata, Rudy Rossetto, Giovanna De Filippis Tue, 09 Apr, 16:15–18:00 Room -2.31 EGU 2019 Vienna
5. **New challenges for integrated water cycle management.** Convener: Rudy Rossetto 2<sup>nd</sup> International Conference Citizen Observatories for natural hazards and Water Management (COWM), 27-30 November 2018, Venice, Italy
6. **Sessione Plenaria "Geoscienze e ICT: strumenti per un pianeta che cambia".** Conveners: C. D'Ambrogi, R. Rossetto. GIT XIII Convegno Nazionale 11-13 giugno 2018 Fortezza Firmafede, Sarzana (Sp)
7. **Session 4-Groundwater management in arid and semi-arid region (dedicated to Prof. Zuppi)** Conveners: G. Ghiglieri, M. Polemio, R. Rossetto. 3<sup>rd</sup> FLOWPATH, the Italian National Meeting on Hydrogeology, Cagliari June 14-16 (Member of the Scientific Committee)
8. **SC71 Introducing groundwater management using FREEWAT** Convener: Giovanna De Filippis | Co-

Conveners: **Rudy Rossetto** , Massimiliano Cannata , Rotman Criollo Fri, 28 Apr, 10:30–13:15 / Room - 2.85 EGU Vienna 2017

9. **Session 6.02: Treated Waste water REUSE for groundwater recharge: addressing the challenge.**  
Conveners: Manuel Sapiano, **Rudy Rossetto**, Nicholas Condom 43<sup>rd</sup> IAH CONGRESS. September 2016 Montpellier
10. **PC3 FREEWAT: open source groundwater modelling integrated in GIS environment** Conveners: Iacopo Borsi, Laura Foglia, Rudy Rossetto IAH Rome September 2015
11. **Session S3.3 - Aquifer recharge assessment and storage management: quantity and quality issues.**  
Conveners: Rudy Rossetto & Peter Dillon IAH Rome September 2015
12. **Sessione 32, WATER, I 1. Quantitative and qualitative assessment of groundwater resources: standard methods, new developments and open problems.** Conveners: Giovanni Pietro Beretta, Daniela Ducci, Rudy Rossetto, Marco Doveri. FIST GEOITALIA 2013 – IX Forum di Scienze della Terra, Pisa, 16-18 Settembre 2013
13. **Sessione scientifica S09: Modellistica idrogeologica.** 3° Congresso Nazionale dell'Associazione Italiana di Geologia Applicata e Ambientale. 27 February 2009, Centro di Geotecnologie, Università degli Studi di Siena, San Giovanni Valdarno (Italy)
14. **Sessione scientifica S23: Modellistica numerica di flusso e trasporto nelle acque sotterranee: stato dell'approccio teorico e applicazioni in idrogeologia.** 84<sup>th</sup> Congresso Nazionale della Società Geologica Italiana. 15 September 2008, Università degli Studi di Sassari, Sassari (Italy)

## **EDITORSHIP, REVIEWING, MEMBERSHIP and NETWORKING**

### **Editorship**

From June 2012 I am Co-Editor in Chief of **Acque Sotterranee – Italian Journal of Groundwater**, a peer-reviewed journal, the oldest European journal dealing with groundwater.

ACQUE SOTTERRANEE - ITALIAN JOURNAL OF GROUNDWATER

Publisher: PAGEPRESS PUBL, MEDITGROUP, VIA G BELLI, 4, PAVIA, ITALY, 27100

ISSN / eISSN: 1828-454X

Categories: GEOSCIENCES | WATER RESOURCES

Web of Science Core Collection: Emerging Sources Citation Index

My main tasks are those of following the publication process (based on the peer-review process). The journal is indexed in SCOPUS since 2021 and within the WoS core collection in the Emerging Source Citation Index.

### **Reviewing**

In October/November 2020 I have been appointed by the EU Commission EASME as **expert** for the evaluation of the second phase submitted proposal to an HORIZON 2020 call. I reviewed 5 proposals.

In November/December 2018 I served as **project reviewer** the Austrian research initiative "Earth System Sciences (ESS)" - Nationale und internationale Forschungsprogramme, Österreichische Akademie der Wissenschaften

I am reviewer for several academic and interdisciplinary journals such as: Hydrological Sciences Journal, Journal of Hydrology, Environmental Science and Pollution Research, Land Use Policy, Ecological Engineering, Utilities Policies, Journal of Hydroinformatics, Environmental Earth Sciences, Chemosphere, Hydrogeology Journal, Catena, Water, Rendiconti Lincei, Applied

Sciences, etc.

### **Memberships**

**G.I.I.**, Gruppo Italiano di Idraulica

**I.A.H.S.**, International Association of Hydrological Sciences

**E.G.U.**, European Geoscience Union – member of the Hydrology Division

**I.A.H.**, International Association of Hydrogeologist, member of the MAR Commission

**A.I.G.A.**, Associazione Italiana Geologia Applicata

### **Academic networking**

As far as the academic networking, I established relevant research cooperation (leading to scientific publications/research projects) with national and international institutions such as (among the others):

- CSIC, Institute of Environmental Assessment and Water Research (Spain)
- CSIRO, Water and Land Unit (Australia)
- Laboratório Nacional de Engenharia Civil (Portugal)
- Helmholtz Centre for Environmental Research – UFZ, Department Monitoring and Exploration Technologies (Germany)
- Joint Research Centre of the European Union, Water and Fishery Unit (EU, Italy)
- Technische Universität Darmstadt, Institut für Angewandte Geowissenschaften (Germany)
- Technische Universität München, Department of Civil, Geo and Environmental Engineering (Germany)
- Universitat Politècnica de Catalunya (UPC), Department of Civil Engineering (Spain)
- Università di Firenze, Dipartimento di Ingegneria Civile e Ambientale (DICEA) (Italy)
- Università per Stranieri di Perugia, Warrendoc (Italy)
- University of California, Davis, Department of Land, Air and Water Resources (US)
- USGS - California Water Science Center (US)

I also established cooperation with the **UNESCO - International Hydrological Programme** (as a member of the **OPEN WATER network**) and the **Water and Fishery Unit** of the **Joint Research Centre of the European Union** on framing the–state-of-the-art on using digital tools for groundwater resources management in Africa.

I promoted the participation of the Scuola Superiore Sant’Anna to a large framework agreement with the Po River Basin Authority along with several other university of northern Italy.

Finally, I promoted a **Memorandum of Understanding** between Scuola Superiore Sant’Anna and the **Land and Water Unit** of Australian **CSIRO**, and cooperation with several **EU universities** and **research centres for stimulating excellent research and teaching**.

### **Cluster and network participation**

I am member of relevant EU scale clusters such as:

- i) the **EU ICT4Water cluster**,

- ii) the former **European Innovation Partnership** (active in the action groups **MARtoMarket** and **WIRE, Water Irrigation Resilient Europe**),
- iii) **Water Europe**, the European Technology Platform for water.

Taking part to these societies, clusters and networks allowed me in getting in contact with large and important academic and non-academic Institutions at both EU and non-EU scale.

### **PRIZE and HONORS**

- The paper “Importance of the induced ...” Rossetto et al. (2020) was selected as **cover story** for the Hydrology journal 4<sup>th</sup> issue of 2020 (Volume 7 Issue 4 2020).
- The research run during the FP7 MARSOL project where judged excellent by an UNESCO advisory board and worth publication in the volume **Outstanding examples of successful and sustainable managed aquifer recharge at global scale** that will be released in 2021 by UNESCO. The following paper has been finalised following peer-review process: Rossetto, R.; Barbagli, A.; De Filippis, G.; Chiara Marchina, G.M. Andrea De Caterini. Case Study 19: The Serchio River Bank Filtration for Drinking Water Supply in Sant’Alessio area of Lucca, Italy. In Managing Aquifer Recharge: A Showcase for Resilience and Sustainability; Zheng, Y., Ross, A., Villholth, K.G., Dillon, P., Eds.; A Unesco-lah-Gripp Publication: 2002.
- The Italian Ministero dell’Ambiente e della Tutela del Territorio e del Mare recognised the activities and results of the projects **H2020 FREEWAT** e **EU LIFE REWAT** (which I coordinated/ I am having scientific responsibility) as best practices. As such they are proposed for adoptions to Italian regional authorities within the programme Mettiamoci in Riga (details in the list of invited talks).
- In February 2020, the paper “Spatial data management and numerical modelling ...” (De Filippis et al. 2020) was **Editor’s choice at the journal Water MDPI** (Q1/78<sup>th</sup> Geography planning and Development)
- In 2019, the paper “Sixty years of global progress on Managed Aquifer Recharge” (Dillon et al. 2019) was mentioned among **Springer Nature 2019 highlights**.
- On 9 July 2014 the **project SID&GRID** was awarded the prize **Premio Ambasciatori d’Europa** at SMAU in Florence by Regione Toscana within the initiative Toscana Technologica

### **RESEARCH OUTREACH**

#### **Science Communication Books**

- Rudy Rossetto e Simone Maria Piacentini. **Infrastrutture Blu/Verdi e Misure non Strutturali per la mitigazione del rischio idraulico in ambiente urbano e peri-urbano**. Esempi di buone pratiche. 2018 Iniziativa finanziata con il contributo dello strumento INTERREG-MARITTIMO ITALIA FRANCIA – CUP G96J16001250005
- Rudy Rossetto. **Sub-surface drip irrigation for artichoke cultivation (LIFE REWAT)**. In “Project and demosites 2018-2019”. Water and Irrigation Resilient Europe. EIP Action Group. 2019
- Rudy Rossetto e Chiara Marchina. **INTERVENTI INNOVATIVI PER LA GESTIONE DELLA RISORSA IDRICA NELLA BASSA VAL DI CORNIA**. Linee guida tecnico-operative. 2017 Con il contributo dello

strumento LIFE dell'Unione Europea (LIFE 14 ENV/ET/001290 REWAT)

- Simone Maria Piacentini and **Rudy Rossetto**. **INNOVATION IN WATER RESOURCE MANAGEMENT FOR THE VAL DI CORNIA AREA (ITALY). Examples of best practices**. 2017 Co-financed by the EU LIFE instrument (LIFE 14 ENV/ET/001290 REWAT)
- Nicola Silvestri, L Ercoli, C Pistocchi, R Risaliti, R **Rossetto**, T Sabbatini, P Basile, E Bonari. **Agricoltura e tutela delle acque nel bacino del lago di Massaciuccoli. Ricerca e sperimentazione di sistemi culturali alternativi**. 2013 Pacini Editore Pisa
- **Rossetto**, R., 2007. Il modello numerico del flusso e trasporto dell'erbicida terbutilazina per l'area pilota del campo pozzi di S. Alessio. In "Progetto SERIAL WELLFIR: i risultati di un triennio di attività per la salvaguardia della risorsa idrica". Progetto LIFE-SERIAL WELLFIR-Comune di Lucca. ISBN: 88-95144-01-5
- **Rossetto**, R., Simoncini, D., 2007. Progetto SERIAL WELLFIR: il modello di simulazione della contaminazione da terbutilazina per l'area di S. Alessio (Lu). Progetto LIFE SERIAL WELLFIR-Comune di Lucca CD interattivo, SIAE-F40005422911

### **Press mentions, videos, and TV interviews**

- In November 2020, a video was produced by the Scuola Superiore Sant'Anna on the LIFE REWAT experience **as a relevant example of the impact that Sant'Anna promoted research has on society**. The video can be accessed at:

<https://www.youtube.com/watch?v=UGB-p5xD3ho>

- Part of the video was then included in the main university video presentation: <https://www.youtube.com/watch?v=bKucJ6UCY8w&t=1s>

Press interview:

<http://www.pdc.minambiente.it/it/newsletter-n10-intervista>

- Mention in the article: **Riqualficazione fluviale** (Rubrica *Novità in campo*). Mondo agricolo, Aprile 2021
- Baldi, B., Disperati, L., Gruppioni, G., **Rossetto**, R., Salvini, R., 2007. Il Centro di GeoTecnologie: dove la geomatica è di casa. Geomedia, n.3, 2007. (*this document is also indexed in Web of Science*)
- A **whole set of video interviews** can be visualised at:  
<http://www.liferewat.eu/about-us/video-e-videointerviste.html>  
<http://www.freewat.eu/videos>

Radio interview at RADIO TRE SCIENZA (21st March 2018)

<https://www.raiplayradio.it/audio/2018/03/RADIO3-SCIENZA-Laposultima-goccia-e7e92c2d-049d-4b86-af2d-a5872c22fba9.html>

Video interview and cooperation to the video making. RAI TRE REPORT PUNTATA DEL 18/12/2017 GOCCIA A GOCCIA <http://www.report.rai.it/dl/Report/puntata/ContentItem-7cea4b5b-a975-4bf5-8a98-7cf66d69404a.html>

- Short interviews at BRIGHT – Researcher's night in 2018 and 2019 in Pisa
- Scientific Aperitif on **Sustainable water resources management** (with Francesca Spagnolo – DIRPOLIS) 29<sup>th</sup> September 2019, Libreria Ghibellina, Pisa

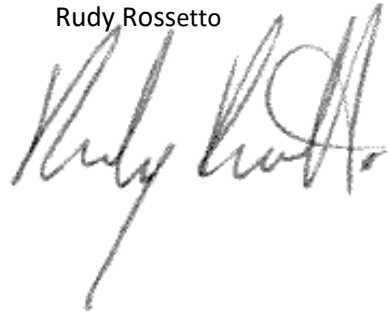
This document consists of 40 pages.

The undersigned declares to be aware of the truthfulness of this application and to be aware of the criminal sanctions, pursuant to Article 76 of Presidential Decree 28.12.2000, no. 445, in case of false declarations.

Pursuant to EU Regulation 679/2016 and Legislative Decree 196/2003, I declare that I have read the Information on processing of personal data in the context of this personnel selection and recruitment procedures.

April 30<sup>th</sup> 2021

Rudy Rossetto

A handwritten signature in black ink, appearing to read 'Rudy Rossetto', written in a cursive style.